55-1520-248-23-7

TM 55-1520-248-23-7

APPENDIX K (MAPS)
MAINTENANCE ACTION
PRECISE SYMPTOM

TECHNICAL MANUAL

AVIATION UNIT AND
INTERMEDIATE
MAINTENANCE MANUAL

ARMY MODEL
OH-58D
HELICOPTER

This copy is a reprint which includes current pages from Changes 1 and 2.

This manual together with TM 55-1520-248-23-1, 12 January 1988, TM 55-1520-248-23-2, 12 January 1988, TM 55-1520-248-23-3, 12 January 1988, TM 55-1520-248-23-4, 12 January 1988, TM 55-1520-248-23-5, 12 January 1988, TM 55-1520-248-23-6, 12 January 1988, TM 55-1520-248-23-8, 12 January 1988, supersedes TM 55-1520-248-23-1, 3 November 1986, TM 55-1520-248-23-2, 3 November 1986, TM 55-1520-248-23-3, 3 November 1986, TM 55-1520-248-23-4, 3 November 1986, TM 55-1520-248-23-5, 3 November 1986.

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 20 June 1989

Aviation Unit and Intermediate Maintenance Manual
ARMY MODEL OH-58D HELICOPTER

TM 55-1520-248-23-7, 12 January 1988, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
----	A/B
i through vi	i through vi
K-1 through K-8	K-1 through K-8
K-15 and K-16	K-15 and K-16
K-745 and K-746	K-745 and K-746
K-751 through K-758	K-751 through K-758
----	L-1 through L-11/L-12
Index 1 through Index 18	Index 1 through Index 18
Index 18.1/Index 18.2	----
Index 19 through Index 65/ Index 66	Index 19 through Index 65/ Index 66

2. Retain this sheet in front of manual for reference purposes.

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Aviation Unit and Intermediate Maintenance Manual
ARMY MODEL OH-58D HELICOPTER

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- - -	K-60.1/K-60.2
K-61 and K-62	K-61 and K-62
K-289 and K-290	K-289 and K-290
- - -	K-290.1 and K-290.2
K-291 and K-292	K-291 and K-292
- - -	K-292.1 and K-292.2
Index-17 and Index-18	Index-17 and Index-18
- - -	Index-18.1/Index-18.2
Index-23 and Index-24	Index-23 and Index-24
Index-39 and Index-40	Index-39 and Index-40
Index-49 and Index-50	Index-49 and Index-50

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LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE: The portion of the text affected by the changes is indicated by a vertical bar in the outer margins of the page. Changes to illustrations are indicated by a vertical bar in the outer margins of the page, adjacent to changed area.

Dates of issue for original and changed pages are:

Original ......0 ...... 12 Jan 1988
Change ....1 ...... 17 Nov 1988
Change ....2 ...... 20 Jun 1989

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 4,972, WITH 852 PAGES IN VOLUME 7.

Page No.	* Change No.
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Blank	0
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*Zero in this column indicates an original page.

WARNINGS, CAUTIONS, AND NOTES

Personnel performing troubleshooting procedures and practices which are included or implied in this technical manual shall observe the following warnings.

WARNING

An operating procedure, practice, etc., which if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operating procedure, practice, etc., which if not strictly observed, could result in damage to or destruction of equipment.

NOTE

An operating procedure, condition, etc. which it is essential to highlight.

SAFETY STEPS
ELECTRICAL SHOCK

Refer to FM 21-11 for electrical shock safety steps and procedures.

WARNING
HIGH VOLTAGE

The helicopter contains high voltage and shall be electrically grounded when parked. Serious burns and electrical shock can result from contact with exposed electrical wires or connectors.

WARNING
HIGH VOLTAGE

High voltage may be stored in the ignition system after operation of the APU. This high voltage can cause injury or death.

- Do not make contact with exposed wires or connectors.
- Allow at least five minutes after operation of the ignition system before disconnecting or removing ignition system components.
- Turn all power switches off before making any connections or disconnections.
- Observe instructions for grounding the power cable to discharge high voltage.
- For artificial respiration, refer to FM 21-11.

WARNING

PITOT HEAT

The pitot tube assembly is very hot during and immediately after operation requiring pitot heat. Severe burns will result if contacted by hands or other parts of the body.

WARNING

LUBRICATING CILS HAZARDOUS

Lubricating oils MIL-L-7808 and MIL-L-23699 contain materials hazardous to health. They can cause paralysis if swallowed. Prolonged contact with skin can cause irritation. Fire can result if exposed to heat or flames.

- Use only in areas with adequate ventilation.
- Wash hands thoroughly after handling.

WARNING

BATTERY ELECTROLYTE

Corrosive battery electrolyte (potassium hydroxide) requires rubber gloves, apron, and face shield when handling leaking batteries. Potassium hydroxide spilled on clothing or other material shall be washed immediately with clean water. If spilled on personnel, severe skin burns will result. Immediately start flushing the affected area with clean water and continue flushing until medical assistance arrives.

WARNING

RADIATION HAZARD

SELF-LUMINOUS DIALS

Self-luminous instrument dials contain radioactive materials.

- If glass is broken or case becomes unsealed, avoid personal contact. Injury to personnel could result.
- Forceps or gloves made of rubber or polyethylene shall be used to pick up contaminated material.

SELF LUMINOUS DIALS (CONT)

- Place material and gloves in a plastic bag. Seal bag and dispose of it as radioactive waste in accordance with AR 755-15 and TM 3-261.
- Repair procedure shall conform to requirements in AR 700-52.

WARNING

POISONOUS LEAD OXIDE

Poisonous lead oxide is a byproduct of fuels containing tetraethyl lead. Death or injury can result if this lead oxide is taken into the body through cuts or other external openings, or if inhaled.

- Wear rubber gloves and goggles when handling contaminated parts.
- If accidental exposure occurs, drench affected areas with large amounts of clear water.
- Obtain immediate medical attention.

WARNING

TOXIC AND FLAMMABLE SOLVENTS

Solvents used for cleaning are toxic and flammable. They irritate skin and cause burns. Fire can result from use near heat or open flame.

- Use only in a well-ventilated area.
- Wear rubber gloves.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- Get immediate medical attention for eyes.

DANGER
laser light

To look along the axis of a laser beam without protective glasses is extremely dangerous. Serious eye injury will result. Align the laser so that personnel are unlikely to inadvertently look along the axis of its beam.

Laser firing systems may store a charge. Take care to prevent accidental pulsing of the laser and to avoid electric shock. Personal injury may result.

Reflections from the laser beam are extremely dangerous. Serious eye injury will result. It is essential that all reflective material be removed from its path.

WARNING
SOLVENT

Drycleaning solvent is flammable and toxic. It can irritate skin and cause burns.

- Use only in well-ventilated area away from heat and open flame.
- Wear rubber gloves and goggles.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- Get medical attention for eyes.

WARNING
SOUND LEVEL

Sound pressure levels in this helicopter during operating conditions exceed the Surgeon General hearing conservation criteria. Hearing protection devices, such as aviator helmet or ear plugs or ear sound suppressors are required to be worn by all personnel in and around the helicopter during its operation.

WARNING
COMPRESSED AIR

Compressed air is dangerous when directed toward yourself or another person. The airstream or material blown by the airstream can cause injury, particularly to the eyes or face.

- Use goggles to protect eyes and face.
- Do not exceed 30 psig.
- Do not direct airstream toward yourself or another person.

WARNING
TOXIC AND FLAMMABLE FUELS

Turbine fuels and fuel fumes are flammable. They cause drying and irritation of skin or eyes.

- Handle only in well – ventilated areas away from heat and open flame.
- Store in approved metal safety containers.
- Avoid prolonged or repeated contact with skin.
- Do not take internally.
- Wash contacted areas of skin after handling.
- Get immediate medical attention for eyes and irritated skin.

WARNING
METHYL – ETHYL – KETONE (MEK)

MEK is flammable and toxic.

- It can irritate and cause burns.
- Use only in well – ventilated areas, away from heat or open flame.
- Wear rubber gloves and goggles.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- Get medical attention for eyes.

WARNING

STRAY VOLTAGE

Stray voltages may exist in electronic equipment installed in the helicopter. These voltages present an explosive hazard to fuel and fuel fumes. Severe injury or death could result.

WARNING

MAIN AND TAIL ROTOR BLADES

Stay clear of turning main and tail rotor blades. Wind gusts, coast down or cyclic movement may cause the main rotor blade to flap down below the height of a person. Dangerous winds are created by the main rotor blades when blades are operated at or near top rpm. Adequate distance must be maintained from main and tail rotor blades during operation. Severe injury or death may result.

WARNING

ARMAMENT

Loaded weapons, or weapons being loaded or unloaded, shall be pointed in a direction which offers the least exposure to personnel or property in the event of accidental firing. Personnel should remain clear of hazardous area of all loaded weapons.
Death or severe injury may result.

WARNING

HF ANTENNA

Ensure that HF antenna is not operating while performing maintenance. When operating, HF antenna emits infrared radiation that can cause radiation burns. If exposed to infrared radiation, seek medical aid immediately.

WARNING

ASBESTOS DUST

Avoid creating dust. Breathing asbestos dust may cause serious bodily harm.

AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, or the DA Form 2028-2 located in the back of this manual, directly to: Commander, US Aviation System Command, ATTN: AMSAV-MMD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

1. GENERAL.

In order to do the job right, you must be able to find the information you need. Knowing how to use this manual is very important. You should know what the manual consists of, how it is put together, and how to use it.

2. ORGANIZATION.

a. The entire manual is made up of a set of CHAPTERS. They are numbered in Arabic numerals (1, 2, 3, 4, etc.).

b. Each chapter contains information on major helicopter systems.

c. Chapters are divided into SECTIONS. Sections are numbered in Roman numerals (I, II, III, IV, etc.).

d. Each section has information you need for doing any job.

3. PARAGRAPHS.

a. Paragraphs are individually numbered by chapter and sequence. Illustrations are provided to make things clearer. Illustrations and index callouts apply to the text located on the same page as the illustration.

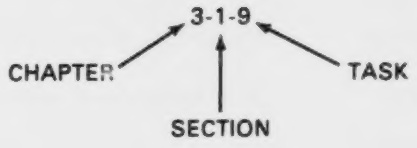
b. Paragraph numbers are assigned to each major information subject.

c. The task title (task name) is also at the top of the page.

4. NUMBERING.

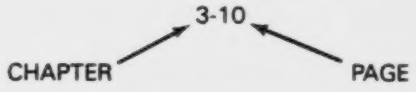
a. Paragraphs are numbered in two parts. The first number is the CHAPTER. The second number is the PARAGRAPH number in that chapter. Each number is separated by a dash.

b. Tasks are numbered in three parts. The first number is the CHAPTER. The second number is the SECTION, and the third is the TASK number in that section. Each number is separated by a dash as shown in the example.



5. PAGE NUMBERING.

All page numbering is by chapters. Section numerals are not included in page numbers. The first number is the number of the chapter; the second number is the number of the page in that chapter. The numbers are separated by a dash as shown in the example.



6. ALPHABETICAL INDEX.

a. The Alphabetical Index lists all the subjects of the manual in alphabetical order. If you know what you are looking for, it will be listed under the first letter of the first word in the title. For example: If you need information on the Tail Rotor Gearbox, look under "T", "R", or "G" in the Index.

b. The Alphabetical Index gives you the page number that has the information you need.

7. APPENDIXES.

a. Appendixes A through J are included in this manual to provide supplementary information required for maintenance. Each appendix contains specific instructions for its use.

b. Section III of Appendix B — Maintenance Allocation Chart — contains a list of the special tools and ground support equipment required for the OH-58D helicopter. The TOOL OR TEST EQUIPMENT REFERENCE CODE COLUMN has a number for each item on the list. This number appears as (B124) for example in identifying the particular tool or GSE in the setup table of the applicable task. Also, this number appears where applicable in Section II of Appendix B.

c. Appendix D — Expendable Supplies and Materials — contains a list of the adhesives, chemicals, etc., required to maintain the helicopter. The ITEM NUMBER column has a number for each item on the list. This number appears as (D4), for example, in identifying lockwire in the setup table of the applicable task. Also, this number appears as (D4) within the steps of the task.

8. GLOSSARY.

a. Many words have more than one meaning. A word that has a certain meaning in every day language may have a different meaning when used for the helicopter. This is the reason for the Glossary. If you see a word in the manual and you are not sure of the meaning, check the Glossary.

b. The Glossary also has a List of Abbreviations as they are used in this manual. It is always good practice to look over the list. Make sure you know what each abbreviation stands for.

9. INITIAL SETUP (EXAMPLE NEXT PAGE).

The first page of each maintenance procedure in the manual is the Initial Setup. Always check the Initial Setup before starting a task on the helicopter. The Initial Setup contains information you must know. DON'T START A TASK UNTIL:

a. You understand the task.

b. You understand what you are to do.

c. You know what is needed to do the work.

NOTE

A task requiring a pilot/maintenance test pilot to perform a MOC/MTF may not necessarily list either in the Initial Setup or Follow-on Maintenance. These requirements may be covered in other referenced tasks under Follow-on Maintenance.

d. You have the things you need.

11-X-X. RIG CYCLIC CONTROLS

This task covers: Rigging (On Helicopter)

INITIAL SETUP

Applicable Configurations:

All

Tools:

Aircraft Mechanic Tool Kit
Rigging Bolt (B66)
Torque Wrench, 30-150 Inch-Pounds
Spring Scales 0-10 pounds.

Parts:

Cotter Pin (8)
Nut

Personnel Required:

66S Scout Helicopter Technical Inspector
67S Scout Helicopter Repairer
Maintenance Test Pilot

References:

TM 55-1520-248-MTF

Equipment Condition:

Forward Fairing Removed (Task 2-1-21)
Collective Controls Rigged (Task 11-2-1)
CPO Collective Stick Removed (Task 11-3-17)
Crew Seats and Floor Panels Removed (Task 2-1-18)

General Safety Instructions:

WARNING

Ensure that no one operates control from inside of helicopter during rigging of cyclic control system. Physical injury can occur. If injury occurs, seek medical aid.

Do not drop tools in center post (vertical tunnel). Tools can jam or damage controls. Loss of controls can result in helicopter crash and loss of lives.

APPENDIX K

MAINTENANCE ACTION PRECISE SYMPTOM (MAPS)

Section I Drive Train System (Chapter 6) K-1
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Section I. DRIVE TRAIN SYSTEM (CHAPTER 6)

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3.	CHIPS XMSN SUMP caution message on MFD	K-6
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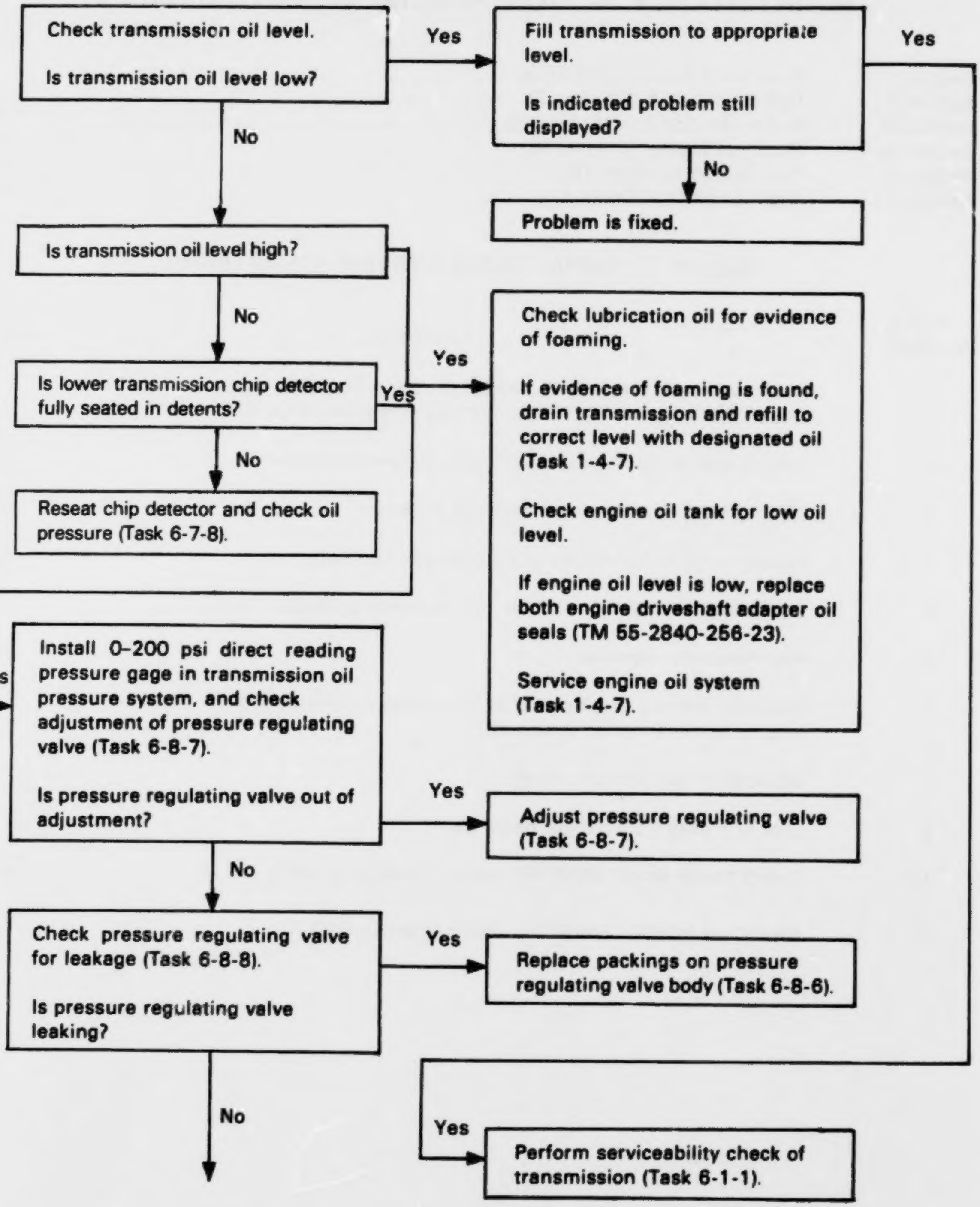
11.	CHIPS TAIL ROTOR GEARBOX caution message on MFD	K-16

1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X 10 (MPD) READS LOW AND TRANSMISSION OIL PRESS CAUTION MESSAGE APPEARS ON MFD



Check transmission oil level.

Is transmission oil level low?

Fill transmission to appropriate level.

Is indicated problem still displayed?

Problem is fixed.

Is transmission oil level high?

Check lubrication oil for evidence of foaming.

If evidence of foaming is found, drain transmission and refill to correct level with designated oil (Task 1-4-7).

Check engine oil tank for low oil level.

If engine oil level is low, replace both engine driveshaft adapter oil seals (TM 55-2840-256-23).

Service engine oil system (Task 1-4-7).

Is lower transmission chip detector fully seated in detents?

Reseat chip detector and check oil pressure (Task 6-7-8).

Install 0-200 psi direct reading pressure gage in transmission oil pressure system, and check adjustment of pressure regulating valve (Task 6-8-7).

Is pressure regulating valve out of adjustment?

Adjust pressure regulating valve (Task 6-8-7).

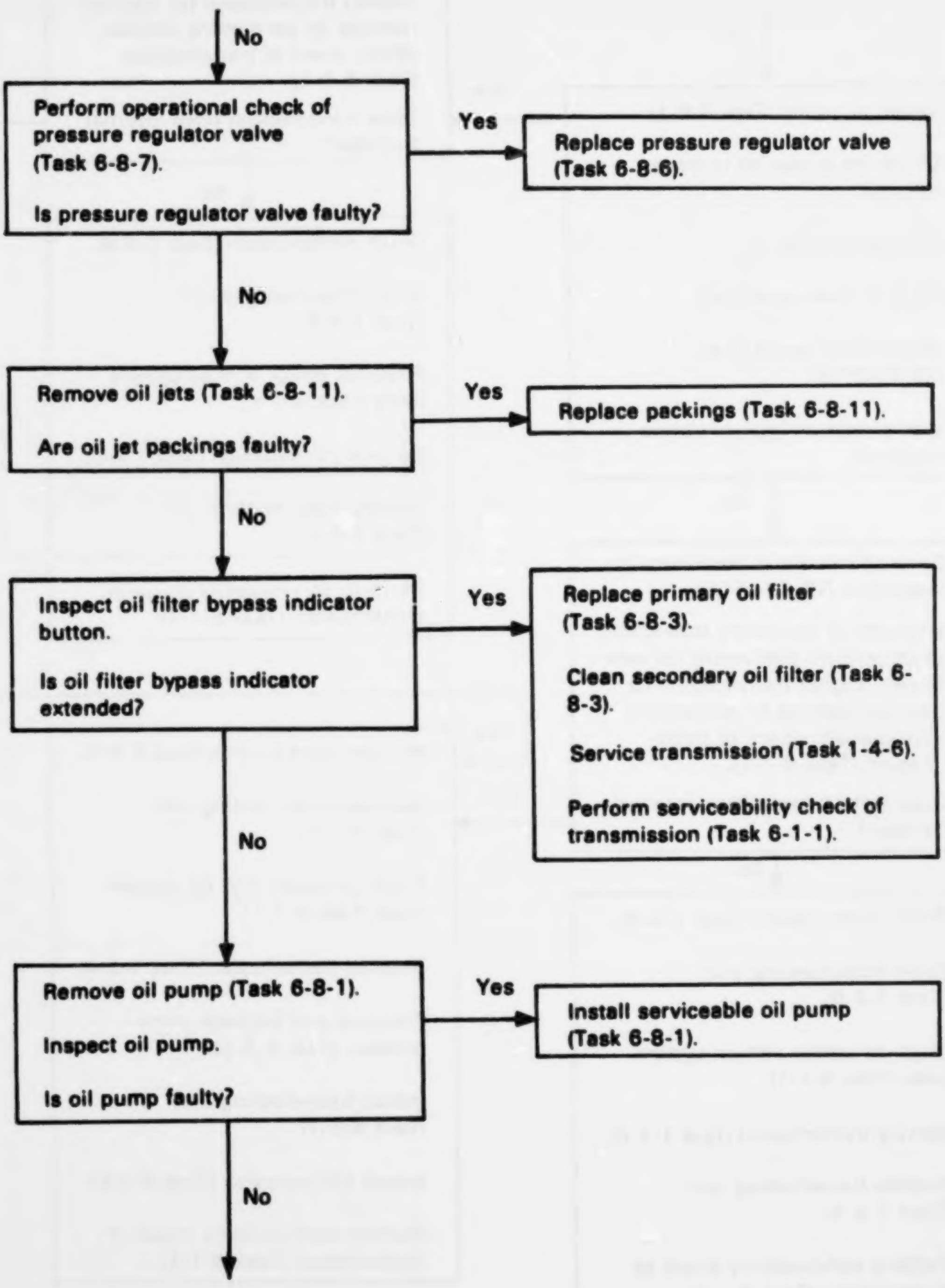
Check pressure regulating valve for leakage (Task 6-8-8).

Is pressure regulating valve leaking?

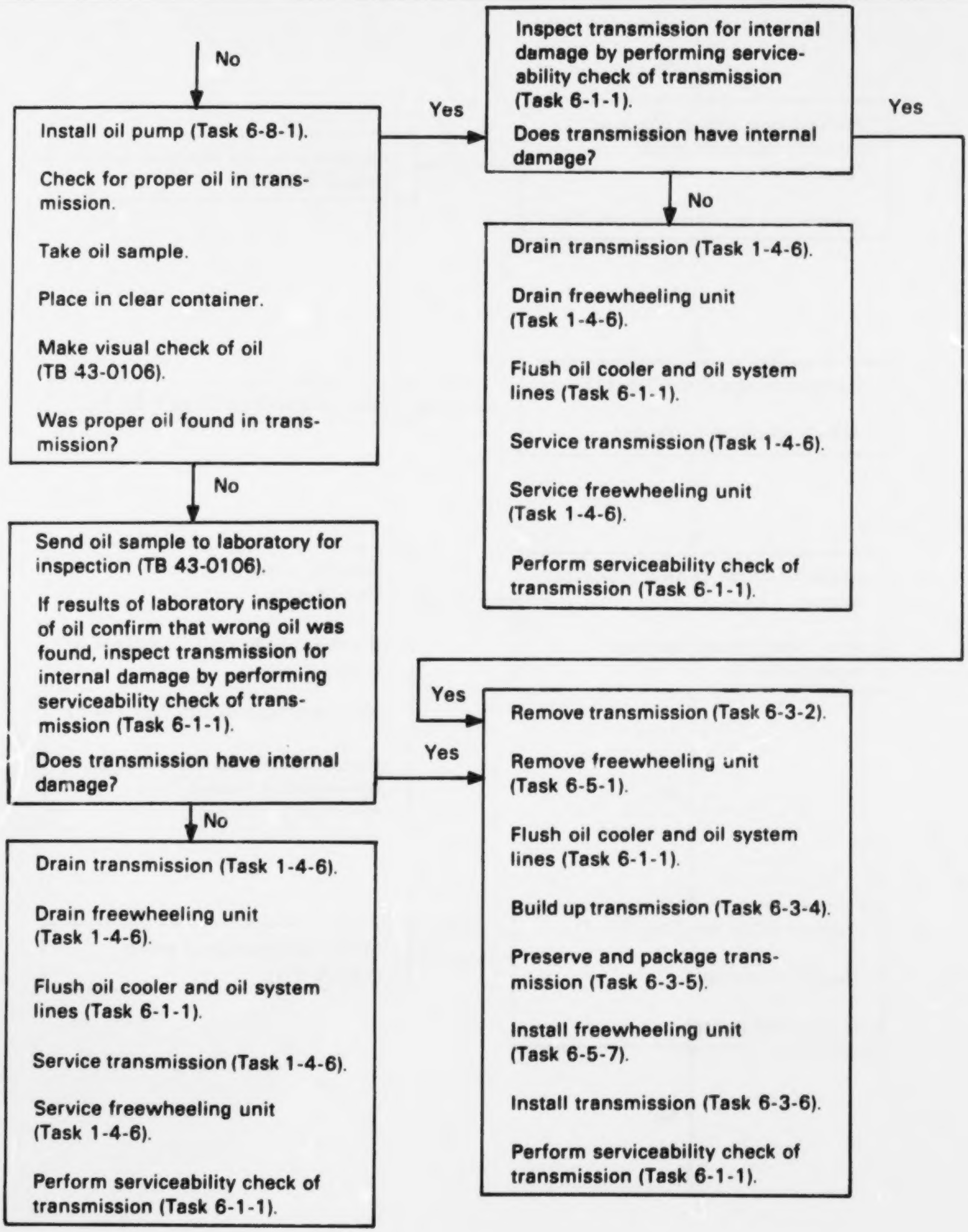
Replace packings on pressure regulating valve body (Task 6-8-6).

Perform serviceability check of transmission (Task 6-1-1).

1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X 10 (MPD) READS LOW AND TRANSMISSION OIL PRESS CAUTION MESSAGE APPEARS ON MFD (CONT)


No
Perform operational check of pressure regulator valve (Task 6-8-7).
Is pressure regulator valve faulty?
Yes
Replace pressure regulator valve (Task 6-8-6).
No
Remove oil jets (Task 6-8-11).
Are oil jet packings faulty?
Yes
Replace packings (Task 6-8-11).
No
Inspect oil filter bypass indicator button.
Is oil filter bypass indicator extended?
Yes
Replace primary oil filter (Task 6-8-3).
Clean secondary oil filter (Task 6-8-3).
Service transmission (Task 1-4-6).
Perform serviceability check of transmission (Task 6-1-1).
No
Remove oil pump (Task 6-8-1).
Inspect oil pump.
Is oil pump faulty?
Yes
Install serviceable oil pump (Task 6-8-1).
No

1. TRANSMISSION OIL PRESSURE ON TRANS OIL PSI X 10 (MPD) READS LOW AND TRANSMISSION OIL PRESS CAUTION MESSAGE APPEARS ON MFD (CONT)



Install oil pump (Task 6-8-1).

Check for proper oil in transmission.

Take oil sample.

Place in clear container.

Make visual check of oil (TB 43-0106).

Was proper oil found in transmission?

Inspect transmission for internal damage by performing serviceability check of transmission (Task 6-1-1).

Does transmission have internal damage?

Drain transmission (Task 1-4-6).

Drain freewheeling unit (Task 1-4-6).

Flush oil cooler and oil system lines (Task 6-1-1).

Service transmission (Task 1-4-6).

Service freewheeling unit (Task 1-4-6).

Perform serviceability check of transmission (Task 6-1-1).

Send oil sample to laboratory for inspection (TB 43-0106).

If results of laboratory inspection of oil confirm that wrong oil was found, inspect transmission for internal damage by performing serviceability check of transmission (Task 6-1-1).

Does transmission have internal damage?

Remove transmission (Task 6-3-2).

Remove freewheeling unit (Task 6-5-1).

Flush oil cooler and oil system lines (Task 6-1-1).

Build up transmission (Task 6-3-4).

Preserve and package transmission (Task 6-3-5).

Install freewheeling unit (Task 6-5-7).

Install transmission (Task 6-3-6).

Perform serviceability check of transmission (Task 6-1-1).

Drain transmission (Task 1-4-6).

Drain freewheeling unit (Task 1-4-6).

Flush oil cooler and oil system lines (Task 6-1-1).

Service transmission (Task 1-4-6).

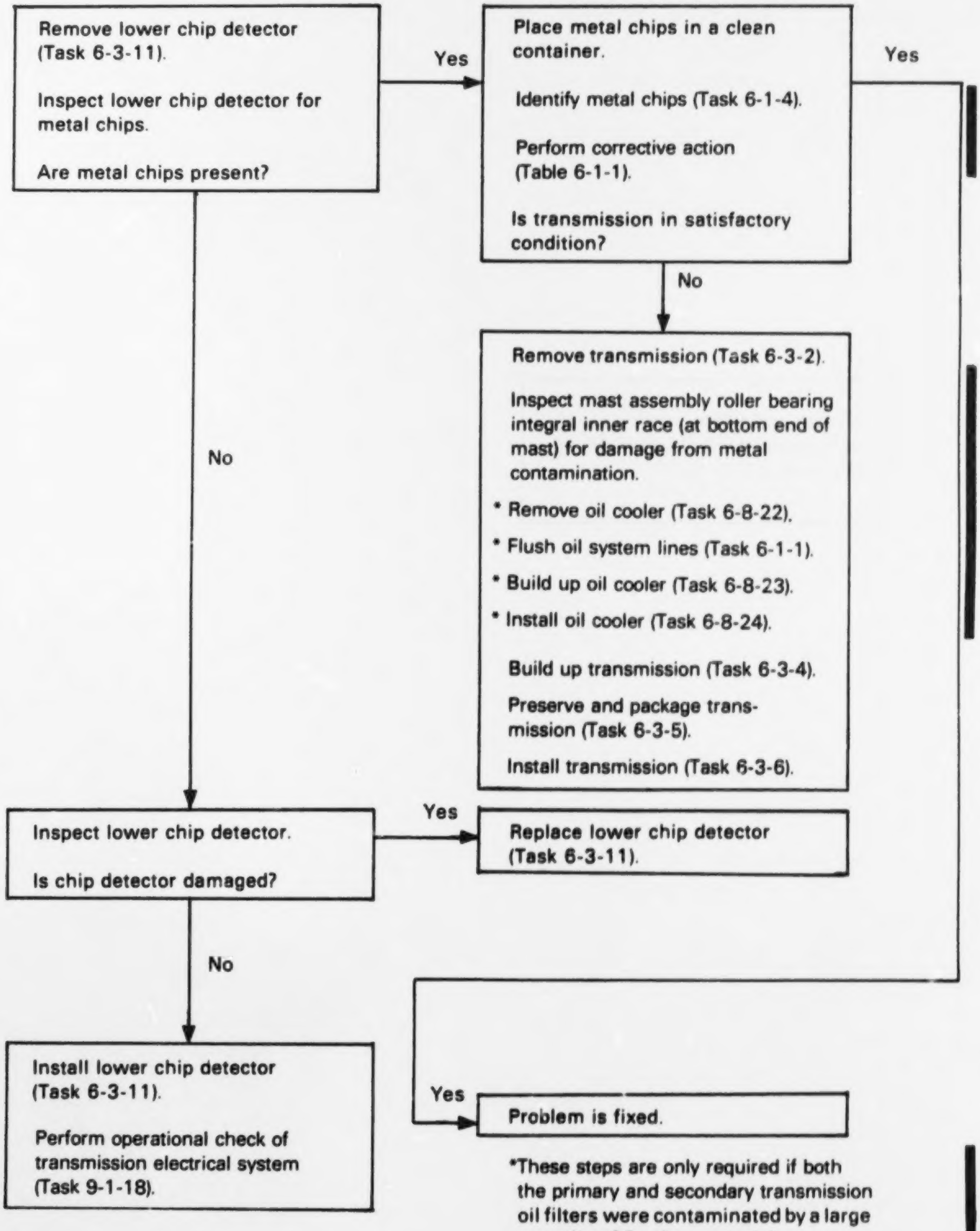
Service freewheeling unit (Task 1-4-6).

Perform serviceability check of transmission (Task 6-1-1).

2. LOW OIL LEVEL IN TRANSMISSION WITH HIGH OIL LEVEL IN ENGINE

Replace preformed packing on aft end of outer shaft of freewheeling unit (Task 6-5-1/6-5-7).

3. CHIPS XMSN SUMP CAUTION MESSAGE ON MFD



Remove lower chip detector (Task 6-3-11).

Inspect lower chip detector for metal chips.

Are metal chips present?

Place metal chips in a clean container.

Identify metal chips (Task 6-1-4).

Perform corrective action (Table 6-1-1).

Is transmission in satisfactory condition?

Remove transmission (Task 6-3-2).

Inspect mast assembly roller bearing integral inner race (at bottom end of mast) for damage from metal contamination.

- * Remove oil cooler (Task 6-8-22).
- * Flush oil system lines (Task 6-1-1).
- * Build up oil cooler (Task 6-8-23).
- * Install oil cooler (Task 6-8-24).

Build up transmission (Task 6-3-4).

Preserve and package transmission (Task 6-3-5).

Install transmission (Task 6-3-6).

Inspect lower chip detector.

Is chip detector damaged?

Replace lower chip detector (Task 6-3-11).

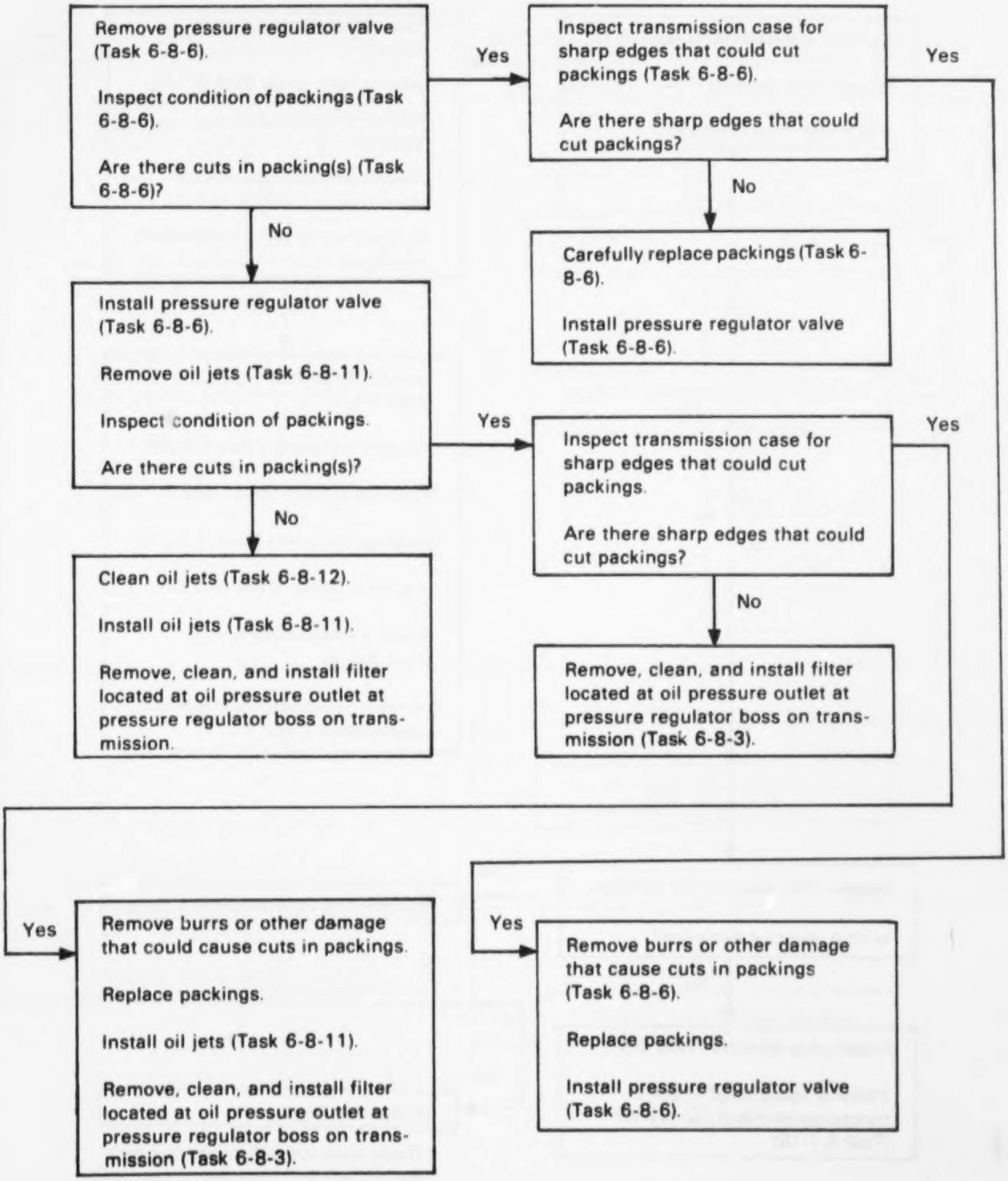
Install lower chip detector (Task 6-3-11).

Perform operational check of transmission electrical system (Task 9-1-18).

Problem is fixed.

*These steps are only required if both the primary and secondary transmission oil filters were contaminated by a large quantity of foreign material. (Task 6-1-4).

4. RUBBER PARTICLES FOUND DURING INSPECTION OF FILTER



Remove pressure regulator valve (Task 6-8-6).

Inspect condition of packings (Task 6-8-6).

Are there cuts in packing(s) (Task 6-8-6)?

Inspect transmission case for sharp edges that could cut packings (Task 6-8-6).

Are there sharp edges that could cut packings?

Carefully replace packings (Task 6-8-6).

Install pressure regulator valve (Task 6-8-6).

Install pressure regulator valve (Task 6-8-6).

Remove oil jets (Task 6-8-11).

Inspect condition of packings.

Are there cuts in packing(s)?

Inspect transmission case for sharp edges that could cut packings.

Are there sharp edges that could cut packings?

Clean oil jets (Task 6-8-12).

Install oil jets (Task 6-8-11).

Remove, clean, and install filter located at oil pressure outlet at pressure regulator boss on transmission.

Remove, clean, and install filter located at oil pressure outlet at pressure regulator boss on transmission (Task 6-8-3).

Remove burrs or other damage that could cause cuts in packings.

Replace packings.

Install oil jets (Task 6-8-11).

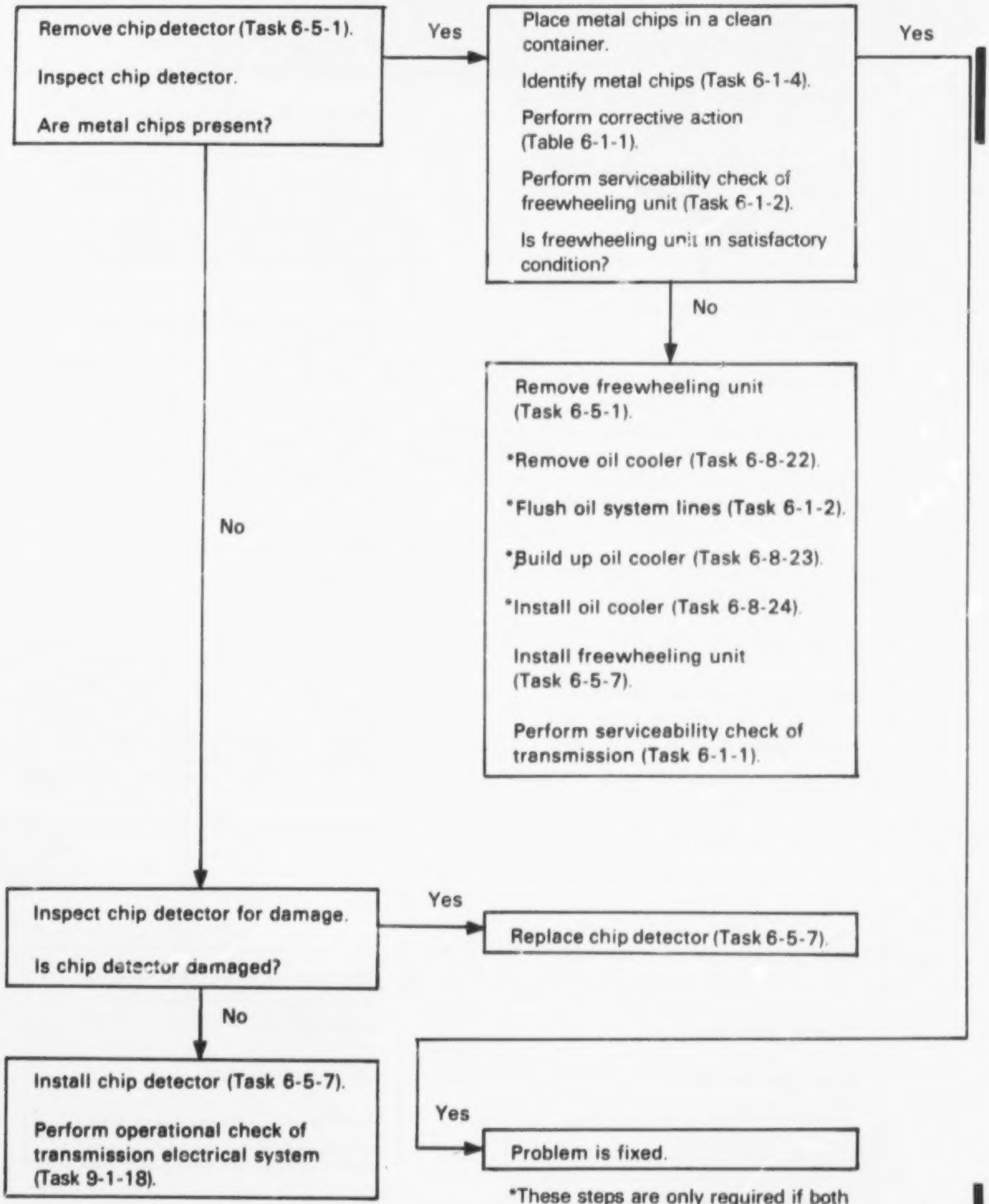
Remove, clean, and install filter located at oil pressure outlet at pressure regulator boss on transmission (Task 6-8-3).

Remove burrs or other damage that cause cuts in packings (Task 6-8-6).

Replace packings.

Install pressure regulator valve (Task 6-8-6).

5. CHIPS FREEWHEELING UNIT CAUTION MESSAGE ON MFD



Remove chip detector (Task 6-5-1).

Inspect chip detector.

Are metal chips present?

Place metal chips in a clean container.

Identify metal chips (Task 6-1-4).

Perform corrective action (Table 6-1-1).

Perform serviceability check of freewheeling unit (Task 6-1-2).

Is freewheeling unit in satisfactory condition?

Remove freewheeling unit (Task 6-5-1).

*Remove oil cooler (Task 6-8-22).

*Flush oil system lines (Task 6-1-2).

*Build up oil cooler (Task 6-8-23).

*Install oil cooler (Task 6-8-24).

Install freewheeling unit (Task 6-5-7).

Perform serviceability check of transmission (Task 6-1-1).

Inspect chip detector for damage.

Is chip detector damaged?

Replace chip detector (Task 6-5-7).

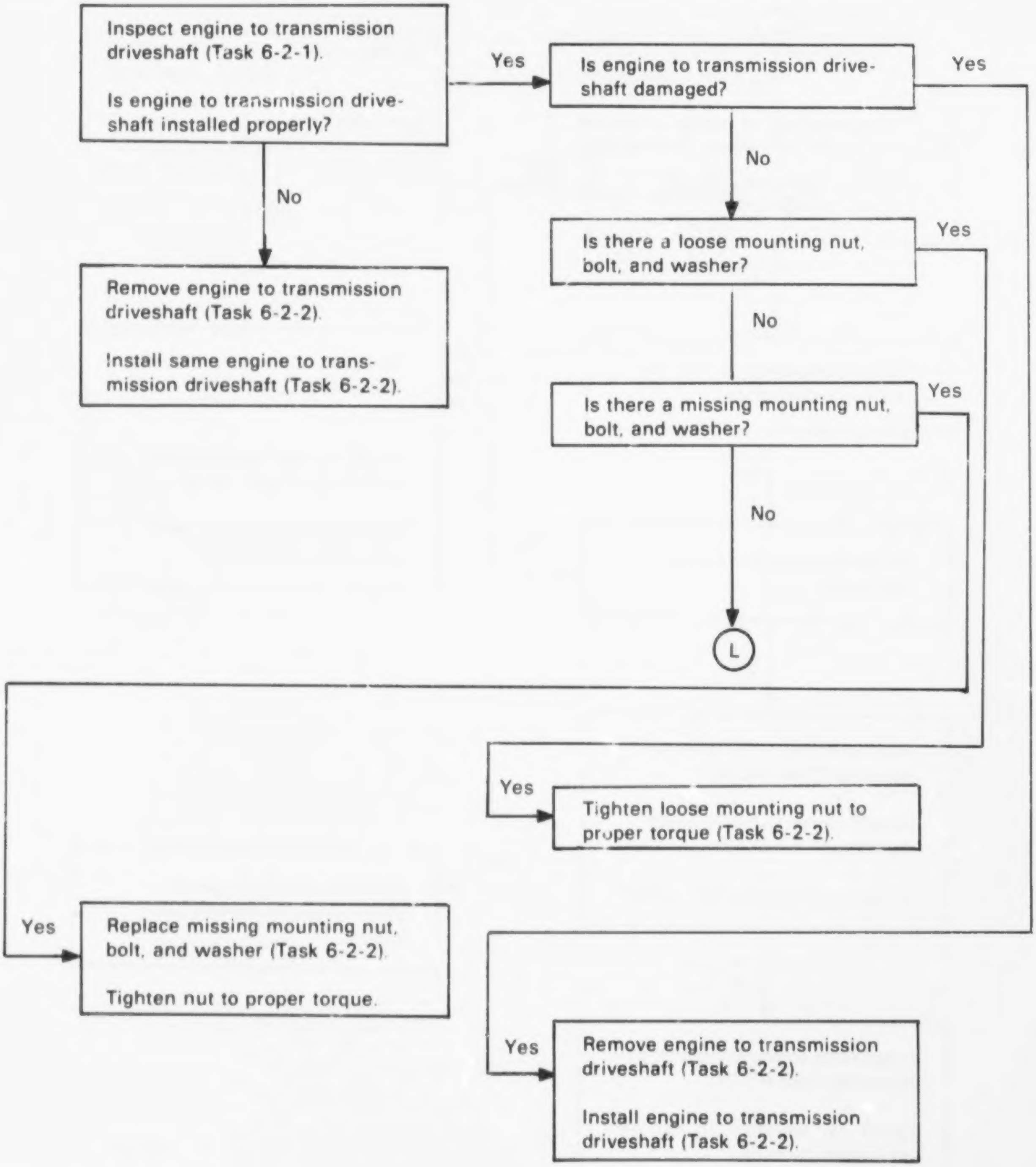
Install chip detector (Task 6-5-7).

Perform operational check of transmission electrical system (Task 9-1-18).

Problem is fixed.

*These steps are only required if both the primary and secondary transmission oil filters were contaminated by a large quantity of foreign material. (Task 6-1-4).

6. HIGH FREQUENCY VIBRATION



Inspect engine to transmission driveshaft (Task 6-2-1).

Is engine to transmission driveshaft installed properly?

Is engine to transmission driveshaft damaged?

Is there a loose mounting nut, bolt, and washer?

Is there a missing mounting nut, bolt, and washer?

Remove engine to transmission driveshaft (Task 6-2-2).

Install same engine to transmission driveshaft (Task 6-2-2).

Tighten loose mounting nut to proper torque (Task 6-2-2).

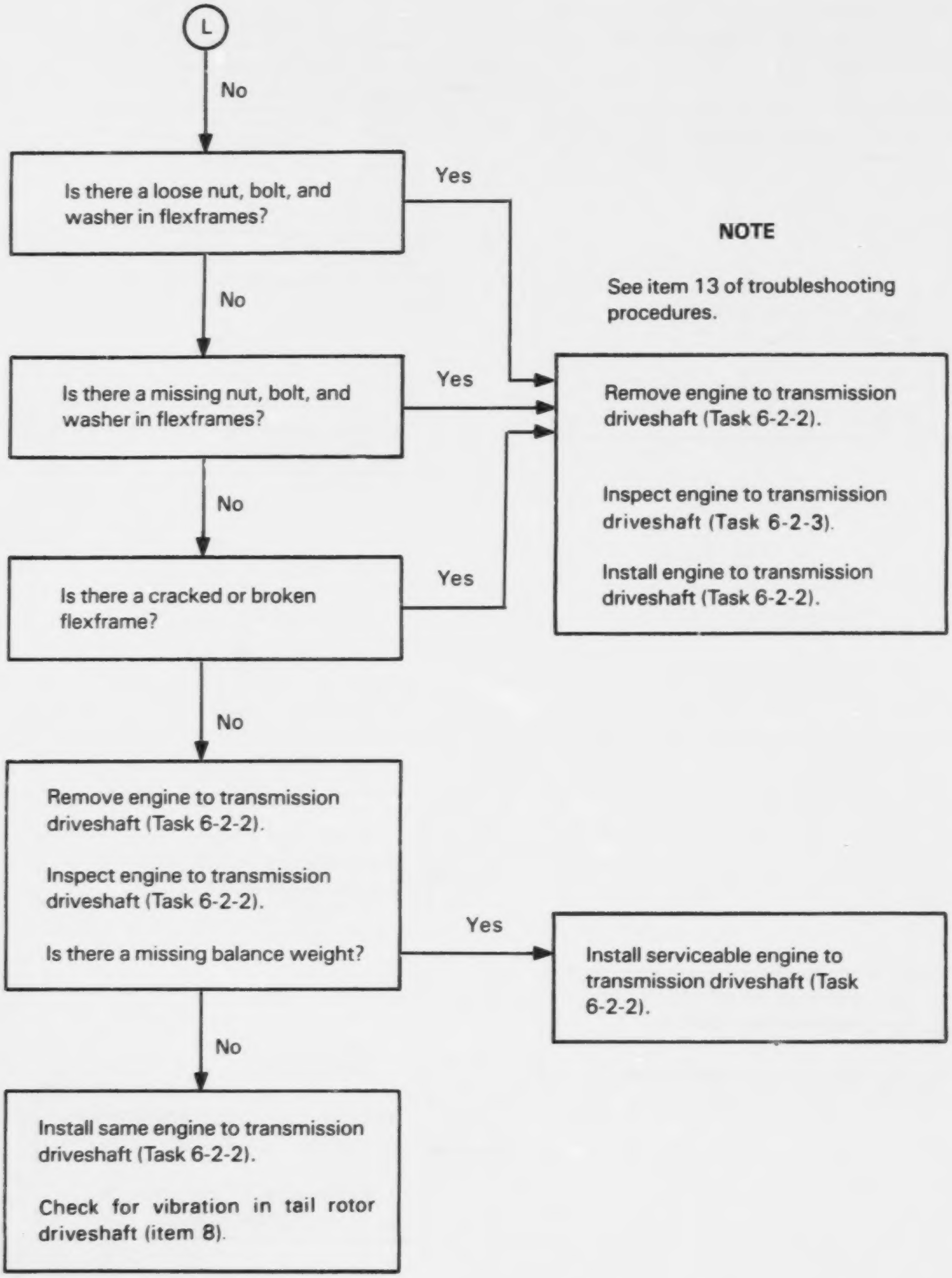
Replace missing mounting nut, bolt, and washer (Task 6-2-2).

Tighten nut to proper torque.

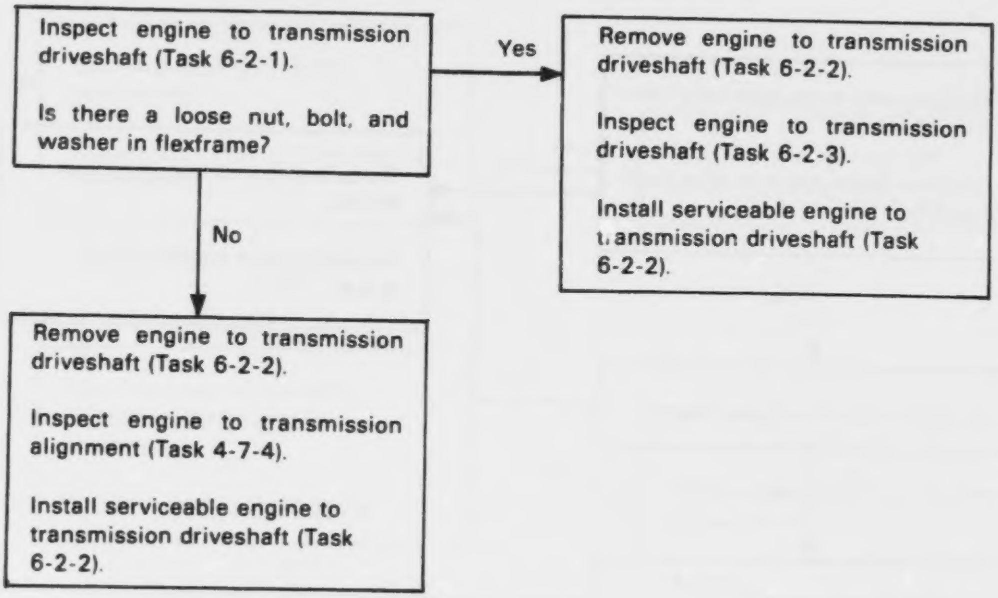
Remove engine to transmission driveshaft (Task 6-2-2).

Install engine to transmission driveshaft (Task 6-2-2).

6. HIGH FREQUENCY VIBRATION (CONT)


L
No
Is there a loose nut, bolt, and washer in flexframes?
Yes
No
NOTE
See item 13 of troubleshooting procedures.
Is there a missing nut, bolt, and washer in flexframes?
Yes
Remove engine to transmission driveshaft (Task 6-2-2).
Inspect engine to transmission driveshaft (Task 6-2-3).
Install engine to transmission driveshaft (Task 6-2-2).
No
Is there a cracked or broken flexframe?
Yes
No
Remove engine to transmission driveshaft (Task 6-2-2).
Inspect engine to transmission driveshaft (Task 6-2-2).
Is there a missing balance weight?
Yes
Install serviceable engine to transmission driveshaft (Task 6-2-2).
No
Install same engine to transmission driveshaft (Task 6-2-2).
Check for vibration in tail rotor driveshaft (item 8).

7. ABNORMAL FRETTING AND/OR WEAR OF FLEXFRAMES AT BOLTED JOINTS



Inspect engine to transmission driveshaft (Task 6-2-1).

Is there a loose nut, bolt, and washer in flexframe?

Remove engine to transmission driveshaft (Task 6-2-2).

Inspect engine to transmission driveshaft (Task 6-2-3).

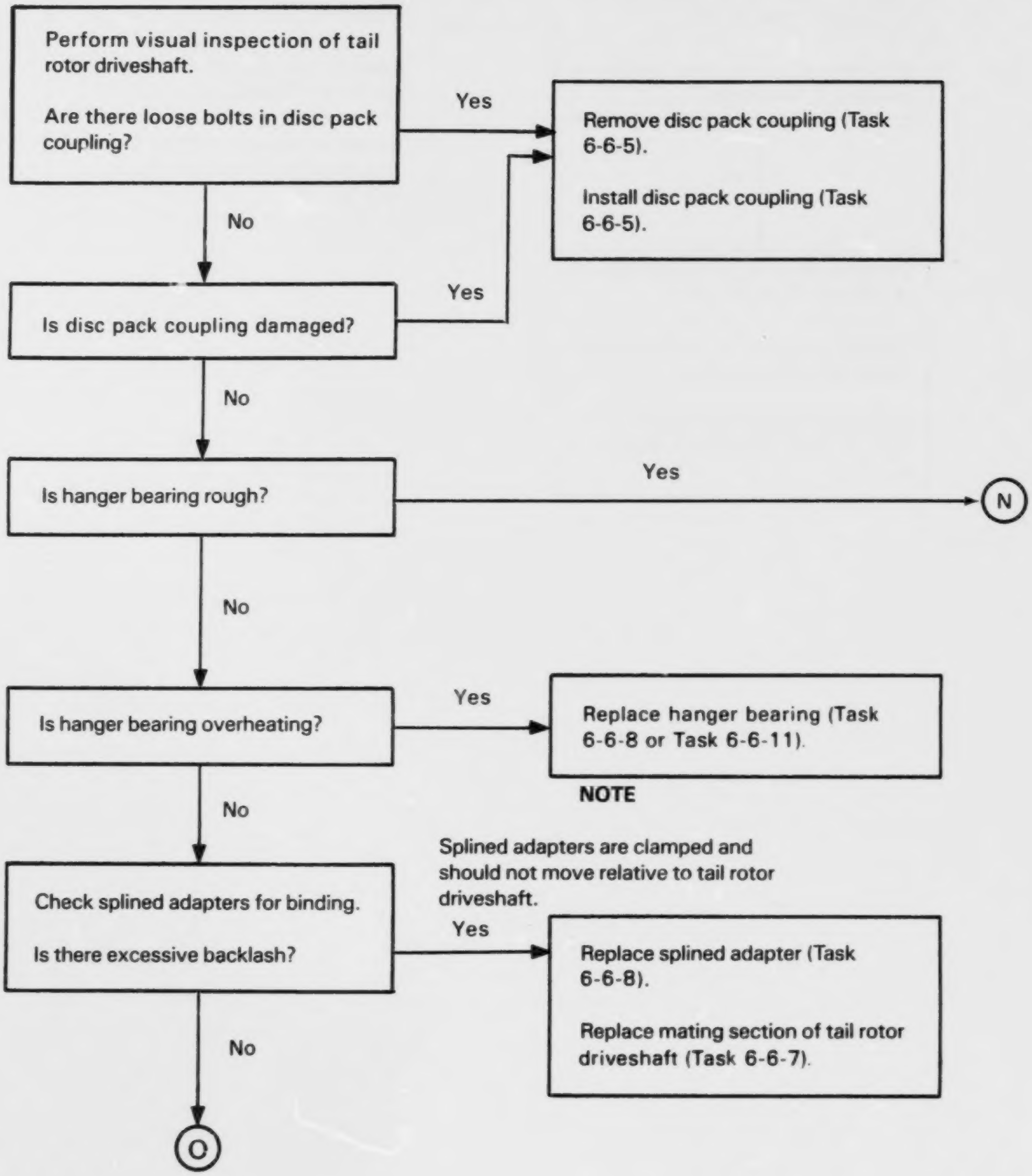
Install serviceable engine to transmission driveshaft (Task 6-2-2).

Remove engine to transmission driveshaft (Task 6-2-2).

Inspect engine to transmission alignment (Task 4-7-4).

Install serviceable engine to transmission driveshaft (Task 6-2-2).

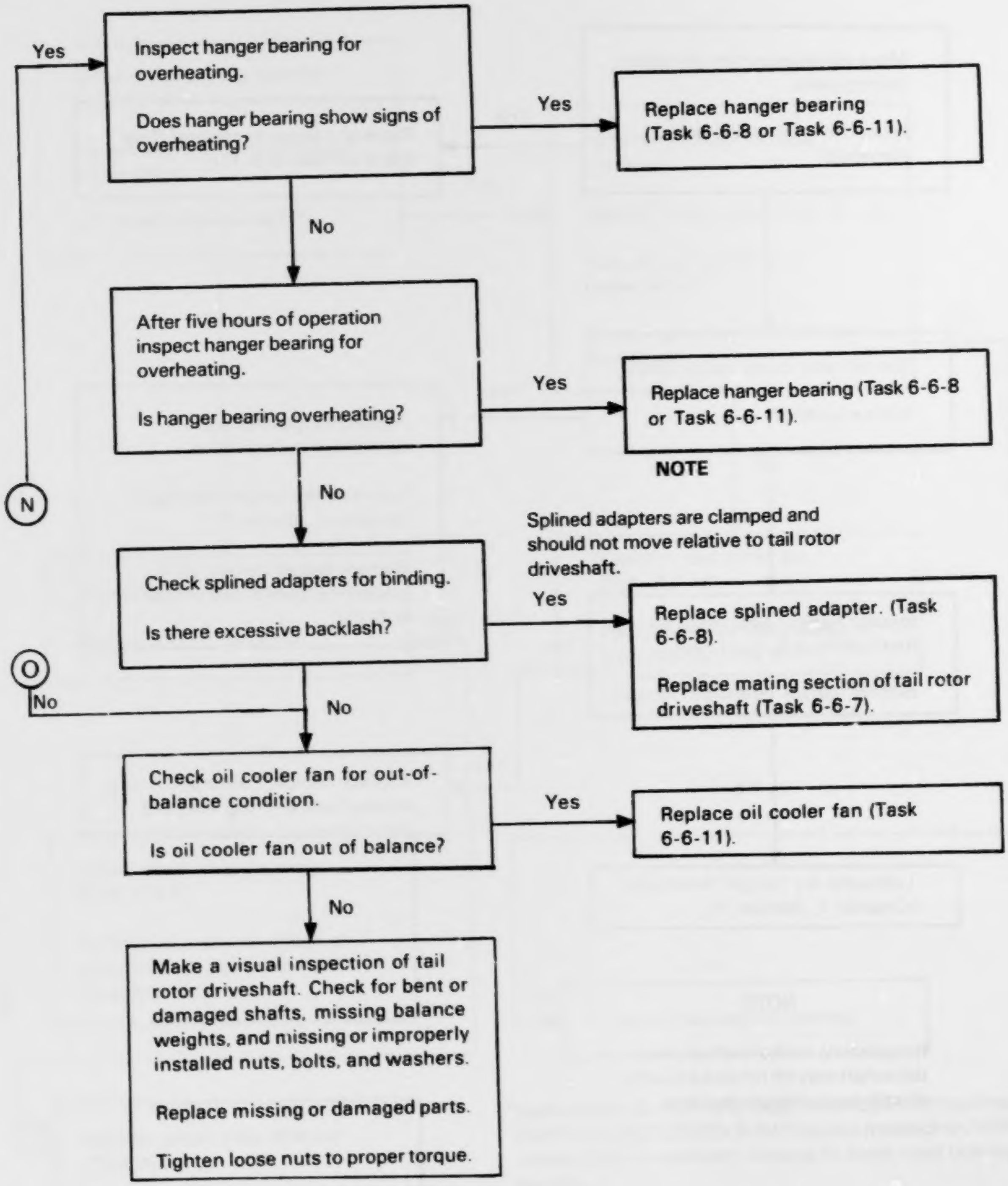
8. VIBRATION IN TAIL ROTOR DRIVESHAFT


Perform visual inspection of tail rotor driveshaft.
Are there loose bolts in disc pack coupling?
Yes
Remove disc pack coupling (Task 6-6-5).
Install disc pack coupling (Task 6-6-5).
No
Is disc pack coupling damaged?
Yes
No
Is hanger bearing rough?
Yes
N
No
Is hanger bearing overheating?
Yes
Replace hanger bearing (Task 6-6-8 or Task 6-6-11).
No
Check splined adapters for binding.
Is there excessive backlash?
Yes
Replace splined adapter (Task 6-6-8).
Replace mating section of tail rotor driveshaft (Task 6-6-7).
No
O

NOTE

Splined adapters are clamped and should not move relative to tail rotor driveshaft.

8. VIBRATION IN TAIL ROTOR DRIVESHAFT (CONT)



Inspect hanger bearing for overheating.

Does hanger bearing show signs of overheating?

Replace hanger bearing (Task 6-6-8 or Task 6-6-11).

After five hours of operation inspect hanger bearing for overheating.

Is hanger bearing overheating?

Replace hanger bearing (Task 6-6-8 or Task 6-6-11).

NOTE

Splined adapters are clamped and should not move relative to tail rotor driveshaft.

Check splined adapters for binding.

Is there excessive backlash?

Replace splined adapter. (Task 6-6-8).

Replace mating section of tail rotor driveshaft (Task 6-6-7).

Check oil cooler fan for out-of-balance condition.

Is oil cooler fan out of balance?

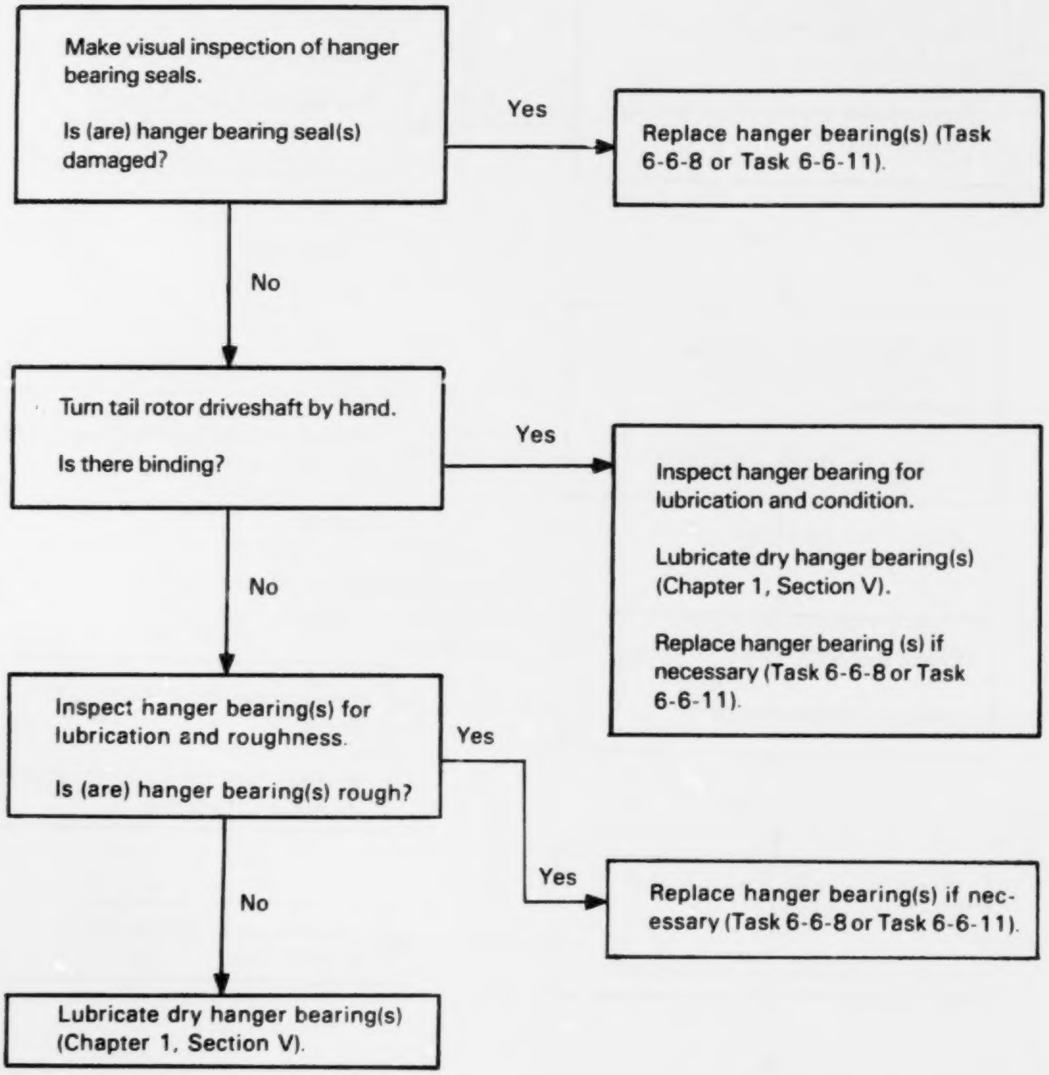
Replace oil cooler fan (Task 6-6-11).

Make a visual inspection of tail rotor driveshaft. Check for bent or damaged shafts, missing balance weights, and missing or improperly installed nuts, bolts, and washers.

Replace missing or damaged parts.

Tighten loose nuts to proper torque.

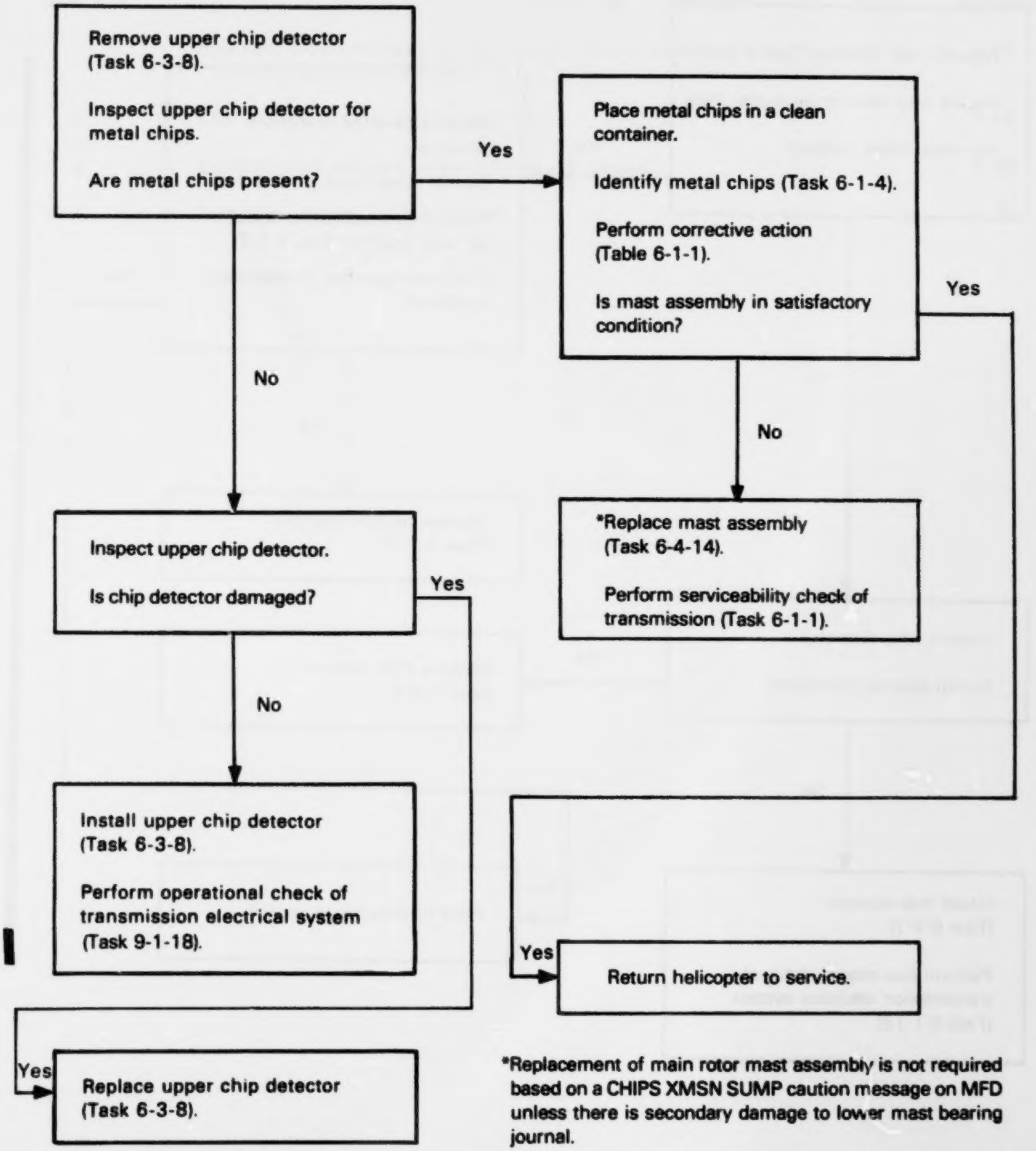
9. LOSS OF GREASE FROM HANGER BEARING(S)


Make visual inspection of hanger bearing seals.
Is (are) hanger bearing seal(s) damaged?
Yes
Replace hanger bearing(s) (Task 6-6-8 or Task 6-6-11).
No
Turn tail rotor driveshaft by hand.
Is there binding?
Yes
Inspect hanger bearing for lubrication and condition.
Lubricate dry hanger bearing(s) (Chapter 1, Section V).
Replace hanger bearing (s) if necessary (Task 6-6-8 or Task 6-6-11).
No
Inspect hanger bearing(s) for lubrication and roughness.
Is (are) hanger bearing(s) rough?
Yes
Yes
Replace hanger bearing(s) if necessary (Task 6-6-8 or Task 6-6-11).
No
Lubricate dry hanger bearing(s) (Chapter 1, Section V).

NOTE

If necessary, sections of tail rotor driveshaft may be removed to help identify faulty hanger bearings.

10. CHIPS XMSN MAST BEARING CAUTION MESSAGE ON MFD



Remove upper chip detector (Task 6-3-8).

Inspect upper chip detector for metal chips.

Are metal chips present?

Place metal chips in a clean container.

Identify metal chips (Task 6-1-4).

Perform corrective action (Table 6-1-1).

Is mast assembly in satisfactory condition?

*Replace mast assembly (Task 6-4-14).

Perform serviceability check of transmission (Task 6-1-1).

Inspect upper chip detector.

Is chip detector damaged?

Install upper chip detector (Task 6-3-8).

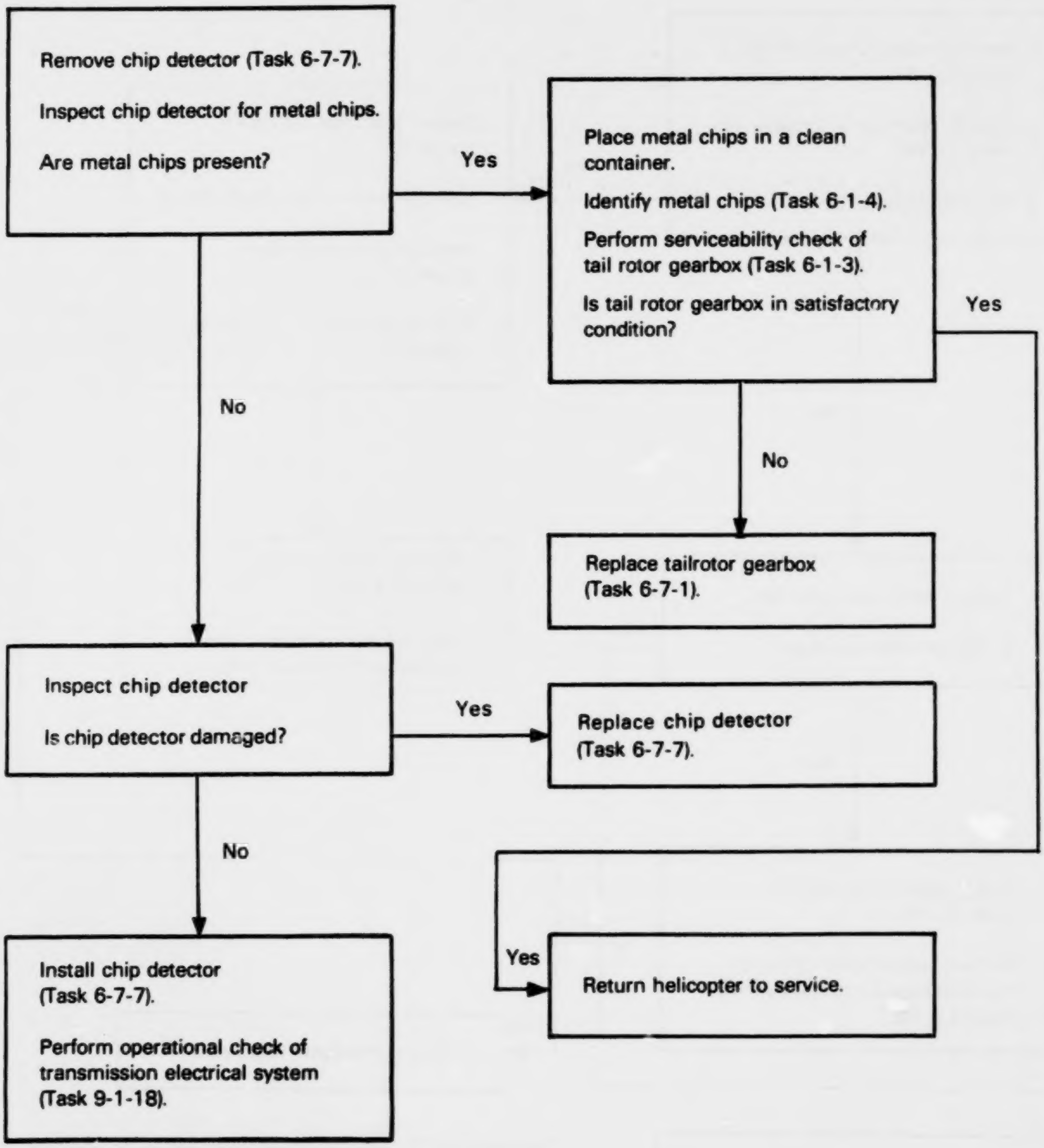
Perform operational check of transmission electrical system (Task 9-1-18).

Return helicopter to service.

Replace upper chip detector (Task 6-3-8).

*Replacement of main rotor mast assembly is not required based on a CHIPS XMSN SUMP caution message on MFD unless there is secondary damage to lower mast bearing journal.

11. CHIPS TAIL ROTOR GEARBOX CAUTION MESSAGE ON MFD



Remove chip detector (Task 6-7-7).

Inspect chip detector for metal chips.

Are metal chips present?

Place metal chips in a clean container.

Identify metal chips (Task 6-1-4).

Perform serviceability check of tail rotor gearbox (Task 6-1-3).

Is tail rotor gearbox in satisfactory condition?

Replace tailrotor gearbox (Task 6-7-1).

Inspect chip detector

Is chip detector damaged?

Replace chip detector (Task 6-7-7).

Return helicopter to service.

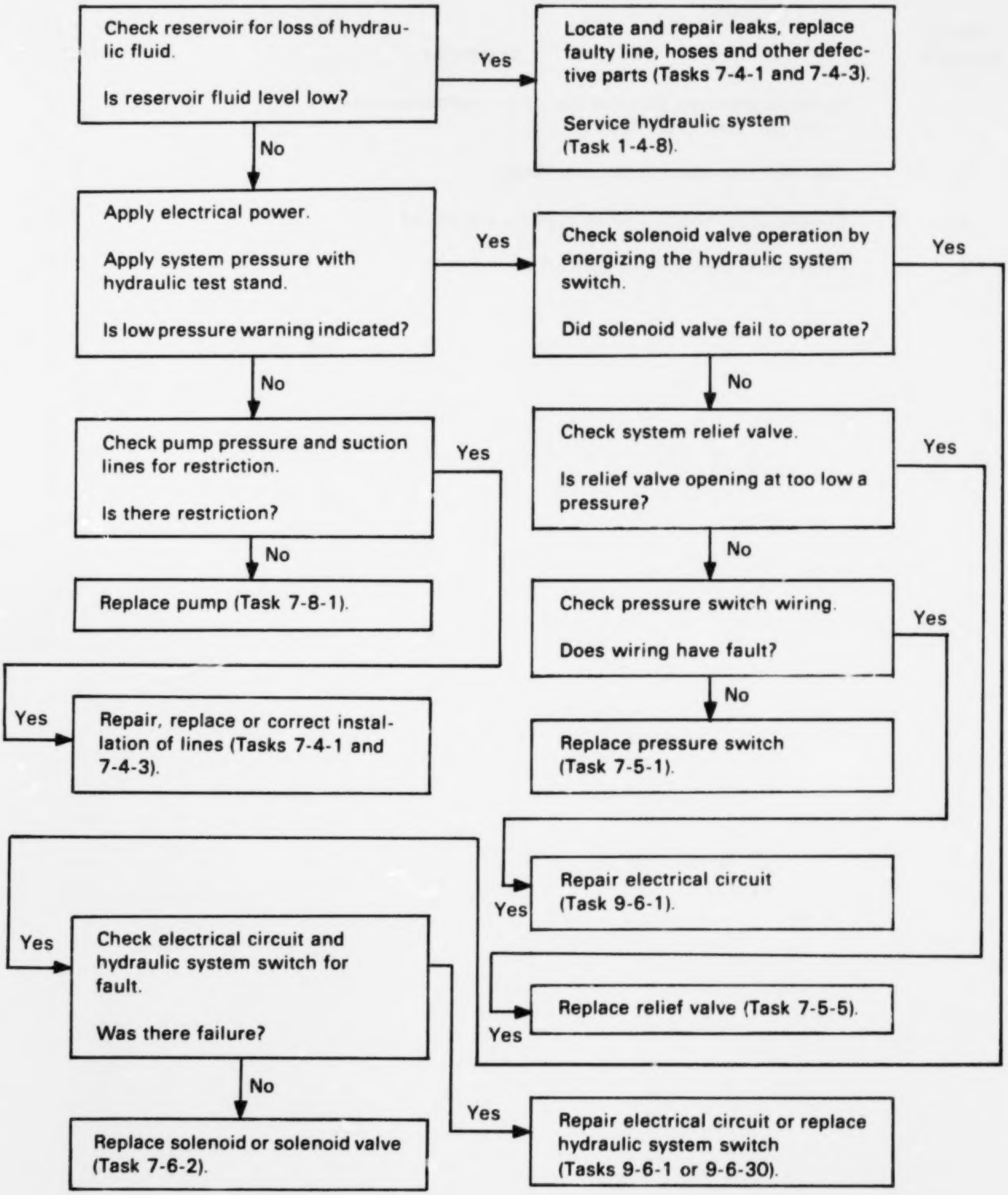
Install chip detector (Task 6-7-7).

Perform operational check of transmission electrical system (Task 9-1-18).

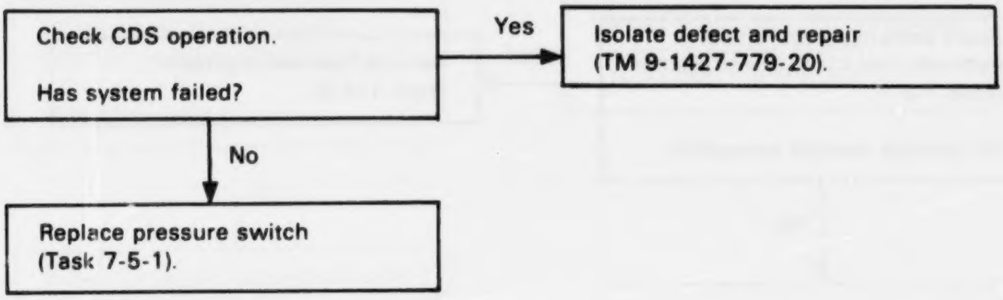
Section II. HYDRAULIC SYSTEM (CHAPTER 7)

MAPS NUMBER	SYMPTOM	PAGE NUMBER
1.	Hydraulic pressure indicates low during normal operation (Caution Low HYD PRESS).	K-18
2.	CDS indicates hydraulic system failed.	K-19
3.	Servoactuator chatters when controls are moved.	K-20
4.	Hydraulic system will not turn off.	K-21

1. HYDRAULIC PRESSURE INDICATES LOW DURING NORMAL OPERATION (CAUTION LOW HYD PRESS)


Check reservoir for loss of hydraulic fluid.
Is reservoir fluid level low?
Yes
Locate and repair leaks, replace faulty line, hoses and other defective parts (Tasks 7-4-1 and 7-4-3).
Service hydraulic system (Task 1-4-8).
No
Apply electrical power.
Apply system pressure with hydraulic test stand.
Is low pressure warning indicated?
Yes
Check solenoid valve operation by energizing the hydraulic system switch.
Did solenoid valve fail to operate?
Yes
No
No
Check pump pressure and suction lines for restriction.
Is there restriction?
Yes
Check system relief valve.
Is relief valve opening at too low a pressure?
Yes
No
No
Replace pump (Task 7-8-1).
Check pressure switch wiring.
Does wiring have fault?
Yes
No
Yes
Repair, replace or correct installation of lines (Tasks 7-4-1 and 7-4-3).
Replace pressure switch (Task 7-5-1).
Repair electrical circuit (Task 9-6-1).
Yes
Yes
Check electrical circuit and hydraulic system switch for fault.
Was there failure?
Replace relief valve (Task 7-5-5).
Yes
No
Yes
Replace solenoid or solenoid valve (Task 7-6-2).
Repair electrical circuit or replace hydraulic system switch (Tasks 9-6-1 or 9-6-30).

2. CDS INDICATES HYDRAULIC SYSTEM FAILED



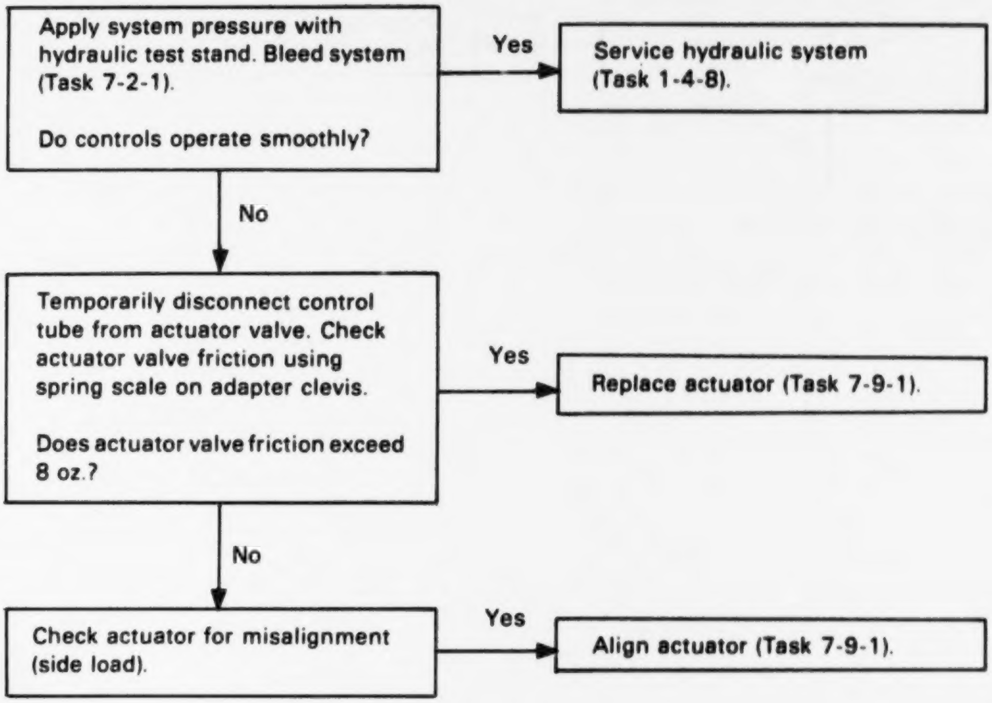
Check CDS operation.

Has system failed?

Isolate defect and repair (TM 9-1427-779-20).

Replace pressure switch (Task 7-5-1).

3. SERVOACTUATOR CHATTERS WHEN CONTROLS ARE MOVED



Apply system pressure with hydraulic test stand. Bleed system (Task 7-2-1).

Do controls operate smoothly?

Service hydraulic system (Task 1-4-8).

Temporarily disconnect control tube from actuator valve. Check actuator valve friction using spring scale on adapter clevis.

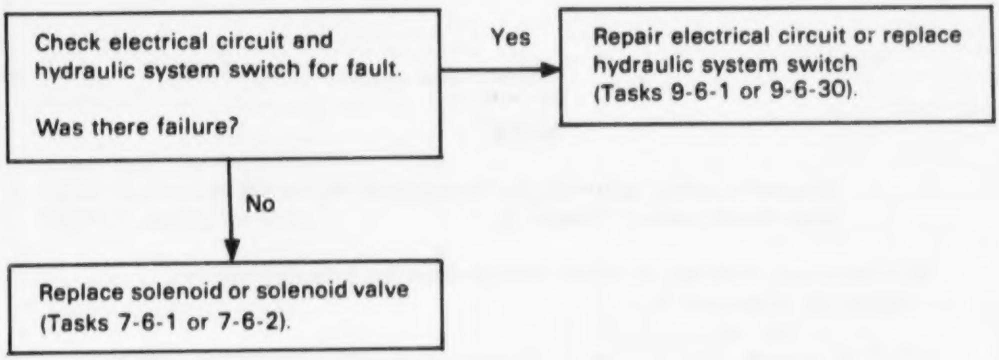
Does actuator valve friction exceed 8 oz.?

Replace actuator (Task 7-9-1).

Check actuator for misalignment (side load).

Align actuator (Task 7-9-1).

4. HYDRAULIC SYSTEM WILL NOT TURN OFF



Check electrical circuit and hydraulic system switch for fault.

Was there failure?

Repair electrical circuit or replace hydraulic system switch (Tasks 9-6-1 or 9-6-30).

Replace solenoid or solenoid valve (Tasks 7-6-1 or 7-6-2).

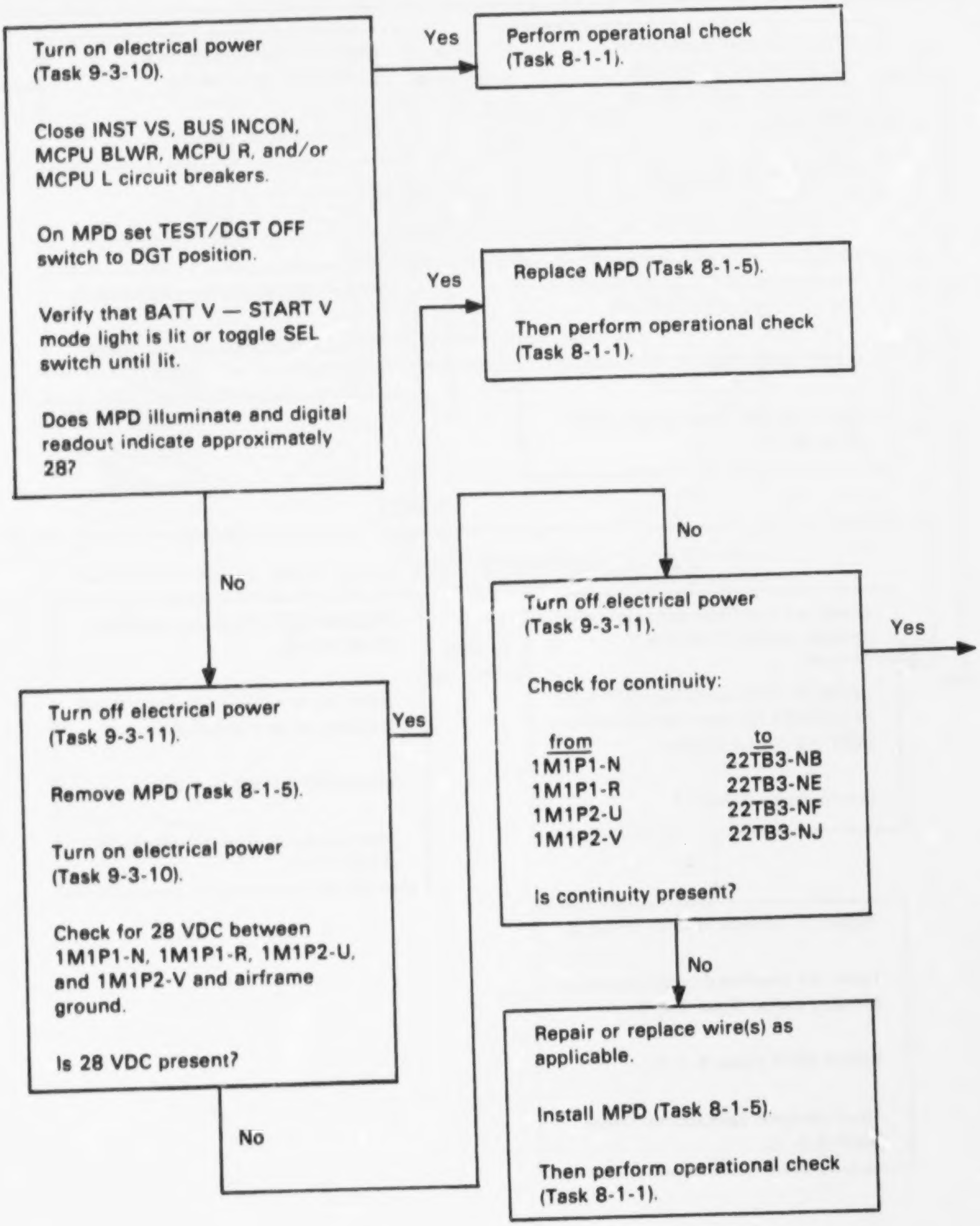
Section III. INSTRUMENT SYSTEMS (CHAPTER 8)

NOTE

The task number referenced in the symptom is the related operational check in Chapter 8.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
1.	MPD does not illuminate or digital readout does not indicate approximately 28. (Task 8-1-1)	K-23
2.	TGT/TRQ indicators do not function properly with MPD operating normally. (Task 8-1-1)	K-26
3.	Dual tachometer does not function properly with MPD operating normally. (Task 8-1-1)	K-28
4.	Standby altimeter fails to illuminate. (Task 8-2-1)	K-30
5.	Standby attitude indicator OFF flag does not move from view. (Task 8-2-4)	K-33
6.	Standby attitude indicator fails to illuminate. (Task 8-2-4)	K-36
7.	Standby airspeed indicator fails to illuminate. (Task 8-2-7)	K-39
8.	Pitot tube does not get hot. (Task 8-3-10).	K-41
9.	Standby compass fails to illuminate. (Task 8-5-1)	K-43
10.	Clock fails to illuminate. (Task 8-5-4)	K-45
11.	Standby altimeter pointer sticks (Task 8-2-1)	K-47
12.	MFD does not indicate RPM and TRQ readings with backup switch depressed. (Task 8-1-1)	K-48
13.	NR vertical indicator does not work properly and mast torque inoperative. (Task 8-1-1).	K-50

1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28.



Turn on electrical power (Task 9-3-10).

Close INST VS, BUS INCON, MCPU BLWR, MCPU R, and/or MCPU L circuit breakers.

On MPD set TEST/DGT OFF switch to DGT position.

Verify that BATT V — START V mode light is lit or toggle SEL switch until lit.

Does MPD illuminate and digital readout indicate approximately 28?

Perform operational check (Task 8-1-1).

Replace MPD (Task 8-1-5).

Then perform operational check (Task 8-1-1).

Turn off electrical power (Task 9-3-11).

Remove MPD (Task 8-1-5).

Turn on electrical power (Task 9-3-10).

Check for 28 VDC between 1M1P1-N, 1M1P1-R, 1M1P2-U, and 1M1P2-V and airframe ground.

Is 28 VDC present?

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
1M1P1-N	22TB3-NB
1M1P1-R	22TB3-NE
1M1P2-U	22TB3-NF
1M1P2-V	22TB3-NJ

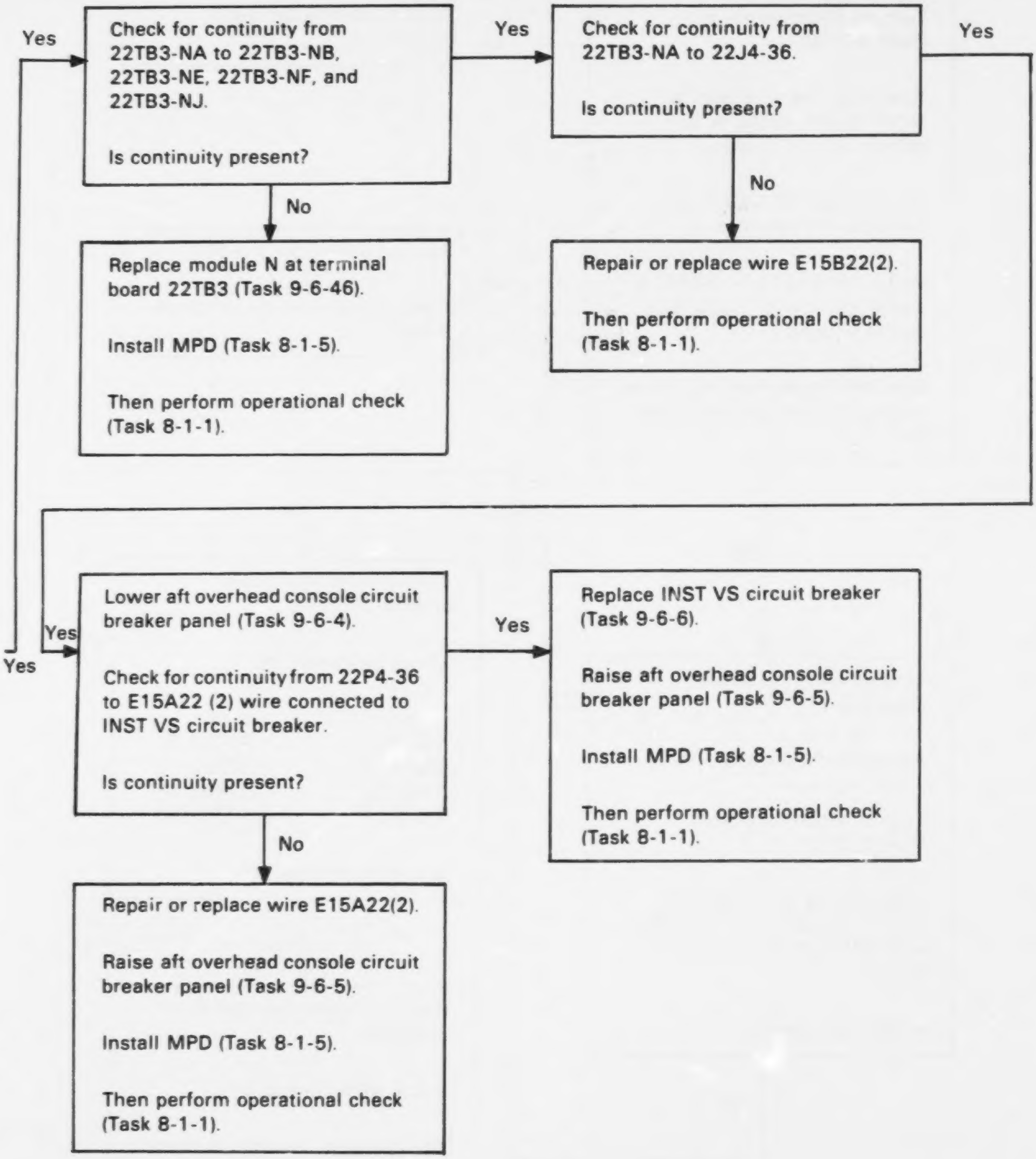
Is continuity present?

Repair or replace wire(s) as applicable.

Install MPD (Task 8-1-5).

Then perform operational check (Task 8-1-1).

1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28 (CONT).



Check for continuity from 22TB3-NA to 22TB3-NB, 22TB3-NE, 22TB3-NF, and 22TB3-NJ.

Is continuity present?

Replace module N at terminal board 22TB3 (Task 9-6-46).

Install MPD (Task 8-1-5).

Then perform operational check (Task 8-1-1).

Check for continuity from 22TB3-NA to 22J4-36.

Is continuity present?

Repair or replace wire E15B22(2).

Then perform operational check (Task 8-1-1).

Lower aft overhead console circuit breaker panel (Task 9-6-4).

Check for continuity from 22P4-36 to E15A22 (2) wire connected to INST VS circuit breaker.

Is continuity present?

Replace INST VS circuit breaker (Task 9-6-6).

Raise aft overhead console circuit breaker panel (Task 9-6-5).

Install MPD (Task 8-1-5).

Then perform operational check (Task 8-1-1).

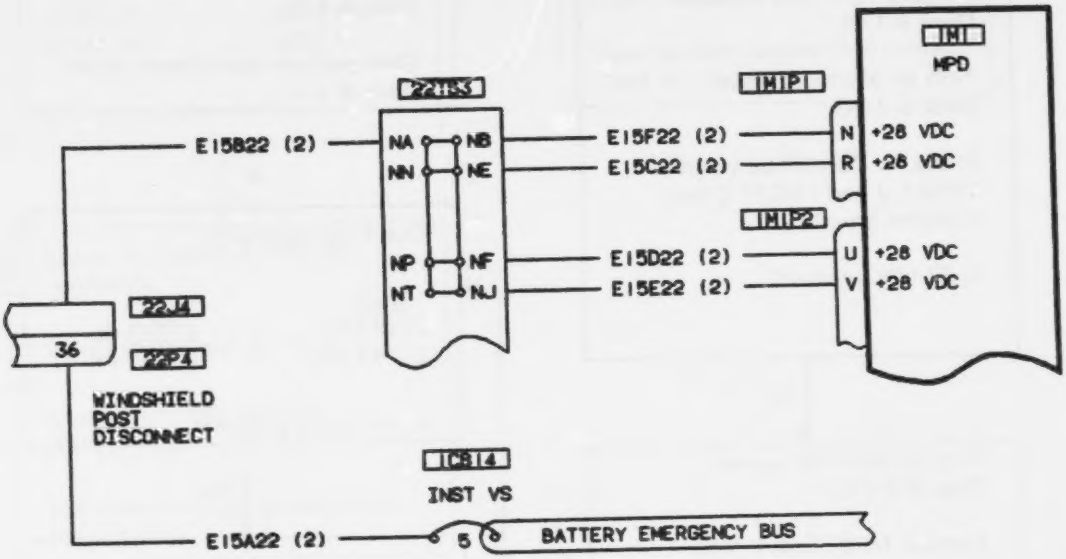
Repair or replace wire E15A22(2).

Raise aft overhead console circuit breaker panel (Task 9-6-5).

Install MPD (Task 8-1-5).

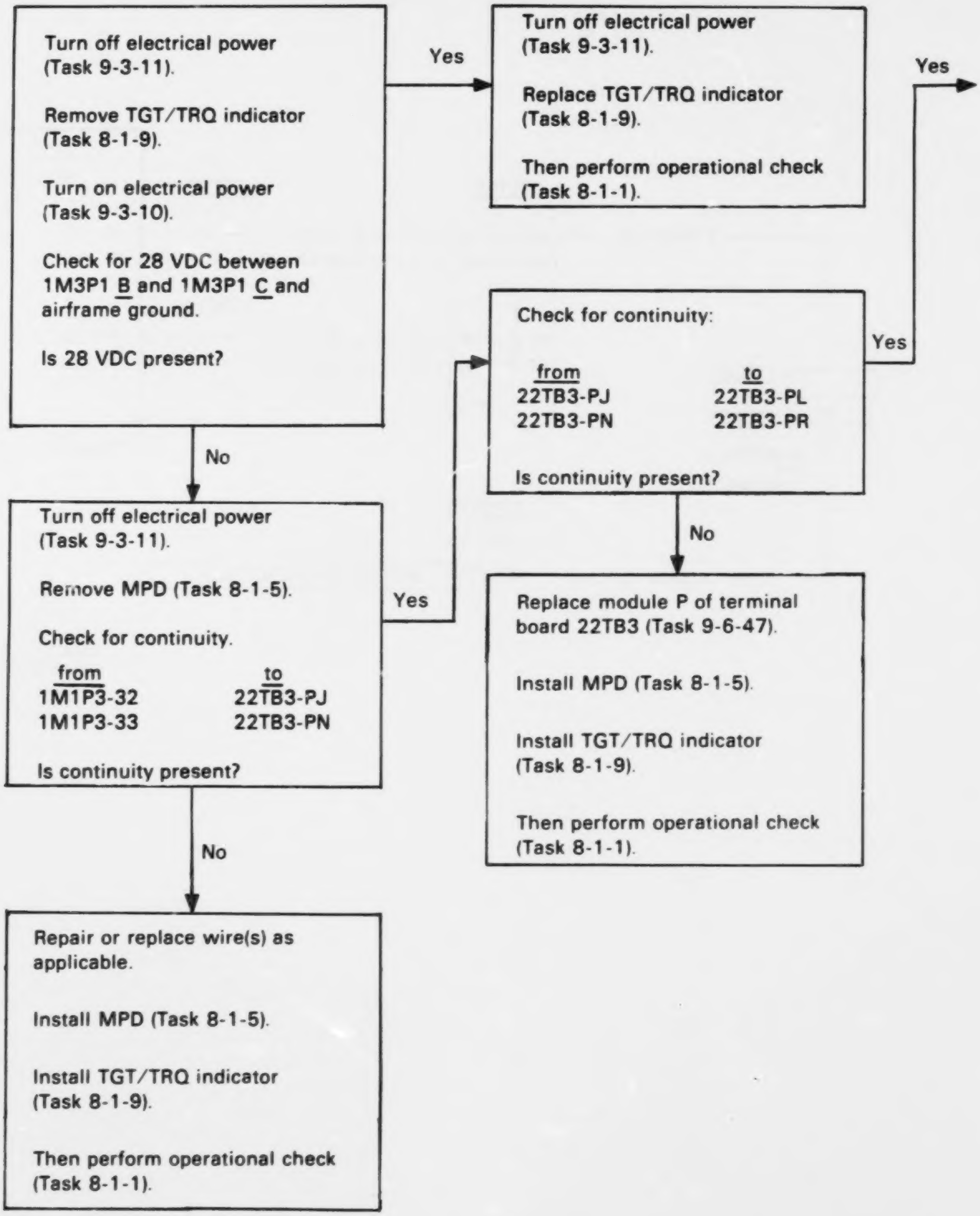
Then perform operational check (Task 8-1-1).

1. MPD DOES NOT ILLUMINATE OR DIGITAL READOUT DOES NOT INDICATE APPROXIMATELY 28 (CONT).


1M1
MPD
1M1P1
1M1P2
22HS3
E15B22 (2)
NA
NB
NN
NE
NP
NF
NT
NJ
E15F22 (2)
E15C22 (2)
E15D22 (2)
E15E22 (2)
N +28 VDC
R +28 VDC
U +28 VDC
V +28 VDC
22J4
36
22P4
WINDSHIELD POST DISCONNECT
1CB14
INST VS
E15A22 (2)
5
BATTERY EMERGENCY BUS

406475-4-3A
406-475-6058

2. TGT/TRQ INDICATOR DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY.



Turn off electrical power (Task 9-3-11).

Remove TGT/TRQ indicator (Task 8-1-9).

Turn on electrical power (Task 9-3-10).

Check for 28 VDC between 1M3P1 B and 1M3P1 C and airframe ground.

Is 28 VDC present?

Turn off electrical power (Task 9-3-11).

Replace TGT/TRQ indicator (Task 8-1-9).

Then perform operational check (Task 8-1-1).

Turn off electrical power (Task 9-3-11).

Remove MPD (Task 8-1-5).

Check for continuity.

from	to
1M1P3-32	22TB3-PJ
1M1P3-33	22TB3-PN

Is continuity present?

Check for continuity:

from	to
22TB3-PJ	22TB3-PL
22TB3-PN	22TB3-PR

Is continuity present?

Replace module P of terminal board 22TB3 (Task 9-6-47).

Install MPD (Task 8-1-5).

Install TGT/TRQ indicator (Task 8-1-9).

Then perform operational check (Task 8-1-1).

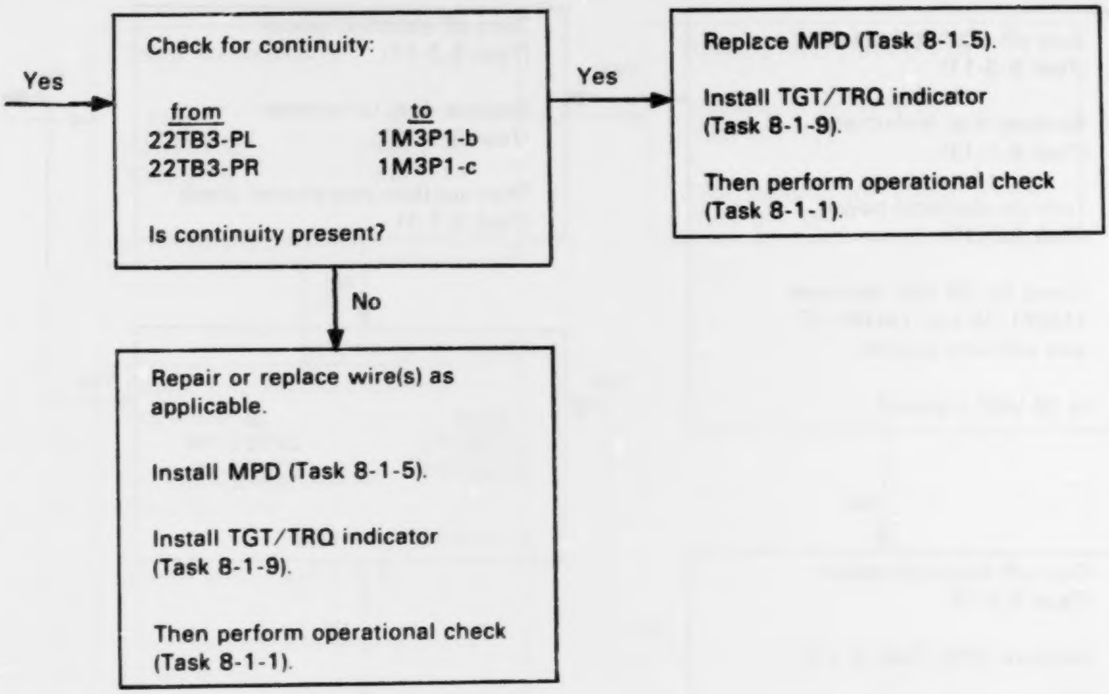
Repair or replace wire(s) as applicable.

Install MPD (Task 8-1-5).

Install TGT/TRQ indicator (Task 8-1-9).

Then perform operational check (Task 8-1-1).

2. TGT/TRQ INDICATOR DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (CONT)



Check for continuity:

from	to
22TB3-PL	1M3P1-b
22TB3-PR	1M3P1-c

Is continuity present?

Replace MPD (Task 8-1-5).

Install TGT/TRQ indicator (Task 8-1-9).

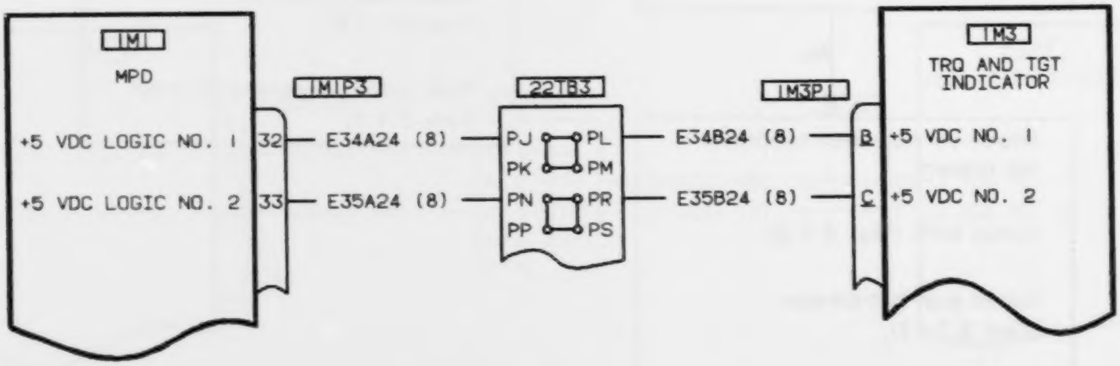
Then perform operational check (Task 8-1-1).

Repair or replace wire(s) as applicable.

Install MPD (Task 8-1-5).

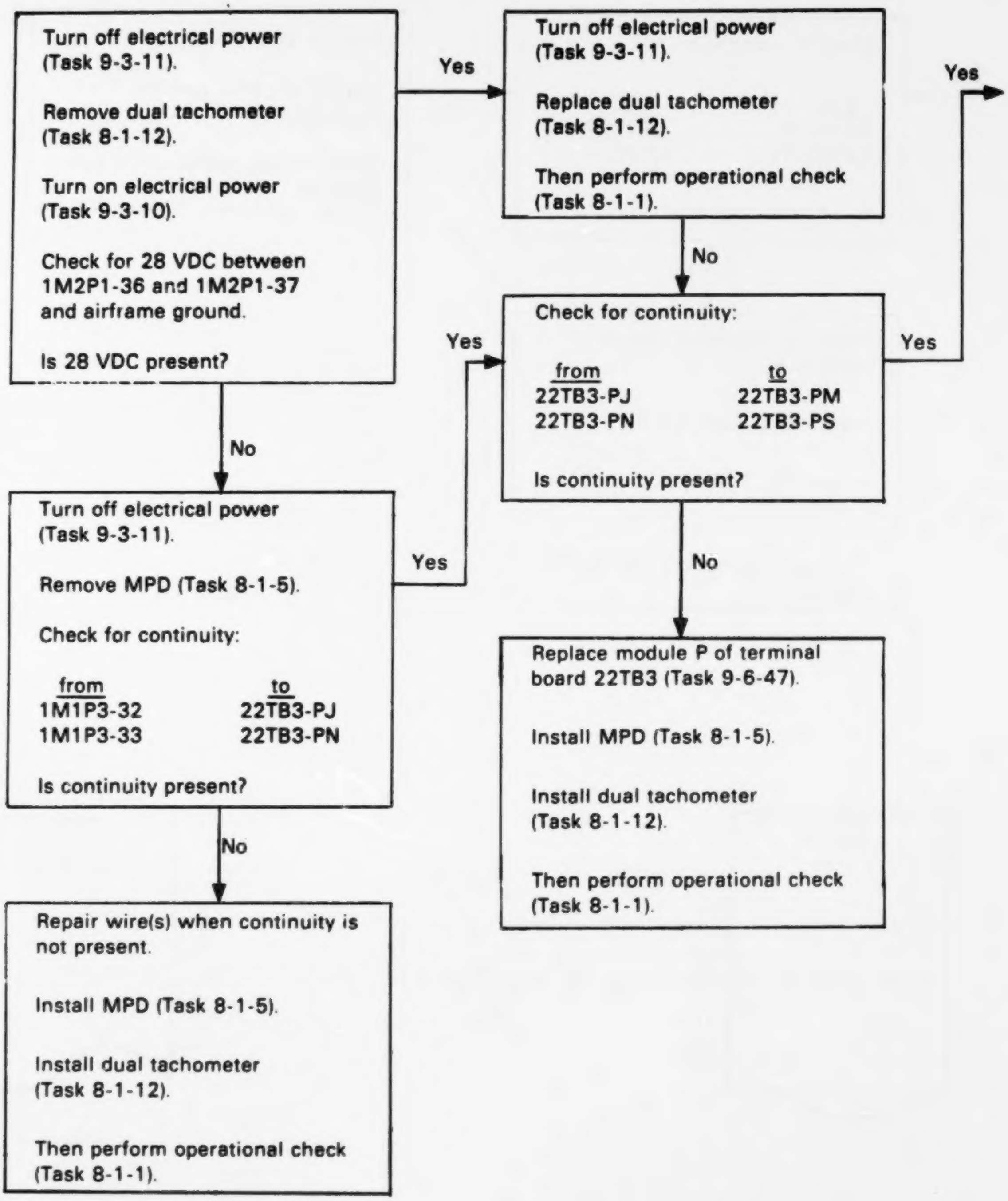
Install TGT/TRQ indicator (Task 8-1-9).

Then perform operational check (Task 8-1-1).


1M1
MPD
+5 VDC LOGIC NO. 1
+5 VDC LOGIC NO. 2
1M1P3
32
33
E34A24 (8)
E35A24 (8)
22TB3
PJ
PK
PN
PP
PL
PM
PR
PS
E34B24 (8)
E35B24 (8)
1M3P1
B
C
1M3
TRQ AND TGT INDICATOR
+5 VDC NO. 1
+5 VDC NO. 2

406475-3-2

3. DUAL TACHOMETER DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY.



Turn off electrical power (Task 9-3-11).

Remove dual tachometer (Task 8-1-12).

Turn on electrical power (Task 9-3-10).

Check for 28 VDC between 1M2P1-36 and 1M2P1-37 and airframe ground.

Is 28 VDC present?

Turn off electrical power (Task 9-3-11).

Replace dual tachometer (Task 8-1-12).

Then perform operational check (Task 8-1-1).

Check for continuity:

from	to
22TB3-PJ	22TB3-PM
22TB3-PN	22TB3-PS

Is continuity present?

Turn off electrical power (Task 9-3-11).

Remove MPD (Task 8-1-5).

Check for continuity:

from	to
1M1P3-32	22TB3-PJ
1M1P3-33	22TB3-PN

Is continuity present?

Replace module P of terminal board 22TB3 (Task 9-6-47).

Install MPD (Task 8-1-5).

Install dual tachometer (Task 8-1-12).

Then perform operational check (Task 8-1-1).

Repair wire(s) when continuity is not present.

Install MPD (Task 8-1-5).

Install dual tachometer (Task 8-1-12).

Then perform operational check (Task 8-1-1).

3. DUAL TACHOMETER DOES NOT FUNCTION PROPERLY WITH MPD OPERATING NORMALLY (CONT)

Yes

Check for continuity:

from	to
22TB3-PM	1M2P1-36
22TB3-PS	1M2P1-37

Is continuity present?

Yes

Replace MPD (Task 8-1-5).

Install dual tachometer (Task 8-1-12).

Then perform operational check (Task 8-1-1).

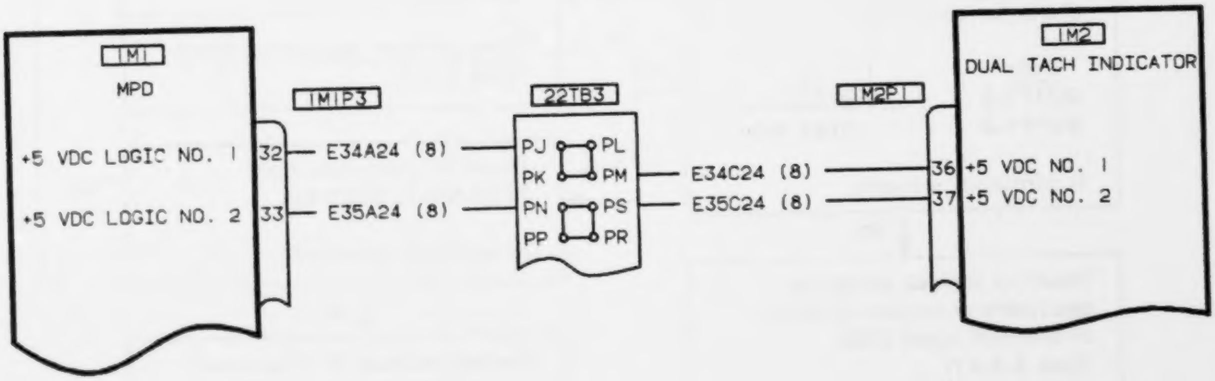
No

Repair wire(s) where continuity is not present.

Install dual tachometer (Task 8-1-12).

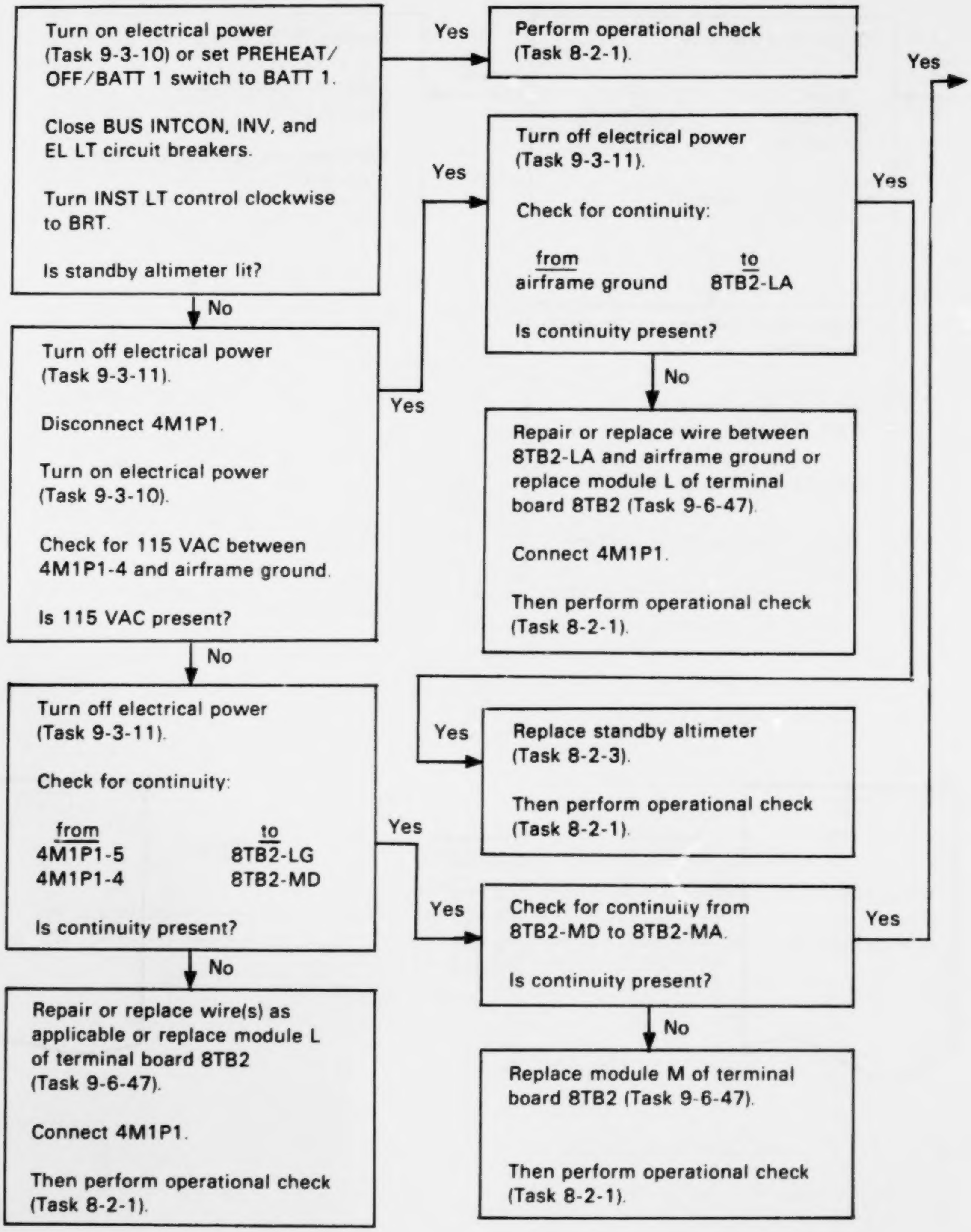
Install MPD (Task 8-1-5).

Then perform operational check (Task 8-1-1).


1M1
MPD
+5 VDC LOGIC NO. 1
+5 VDC LOGIC NO. 2
1M1P3
32
33
E34A24 (8)
E35A24 (8)
22TB3
PJ
PK
PN
PP
PL
PM
PS
PR
E34C24 (8)
E35C24 (8)
1M2P1
36
37
1M2
DUAL TACH INDICATOR
+5 VDC NO. 1
+5 VDC NO. 2

406475-2-2

4. STANDBY ALTIMETER FAILS TO ILLUMINATE.



Turn on electrical power (Task 9-3-10) or set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close BUS INTCON, INV, and EL LT circuit breakers.

Turn INST LT control clockwise to BRT.

Is standby altimeter lit?

Perform operational check (Task 8-2-1).

Turn off electrical power (Task 9-3-11).

Disconnect 4M1P1.

Turn on electrical power (Task 9-3-10).

Check for 115 VAC between 4M1P1-4 and airframe ground.

Is 115 VAC present?

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
airframe ground	8TB2-LA

Is continuity present?

Repair or replace wire between 8TB2-LA and airframe ground or replace module L of terminal board 8TB2 (Task 9-6-47).

Connect 4M1P1.

Then perform operational check (Task 8-2-1).

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
4M1P1-5	8TB2-LG
4M1P1-4	8TB2-MD

Is continuity present?

Replace standby altimeter (Task 8-2-3).

Then perform operational check (Task 8-2-1).

Check for continuity from 8TB2-MD to 8TB2-MA.

Is continuity present?

Repair or replace wire(s) as applicable or replace module L of terminal board 8TB2 (Task 9-6-47).

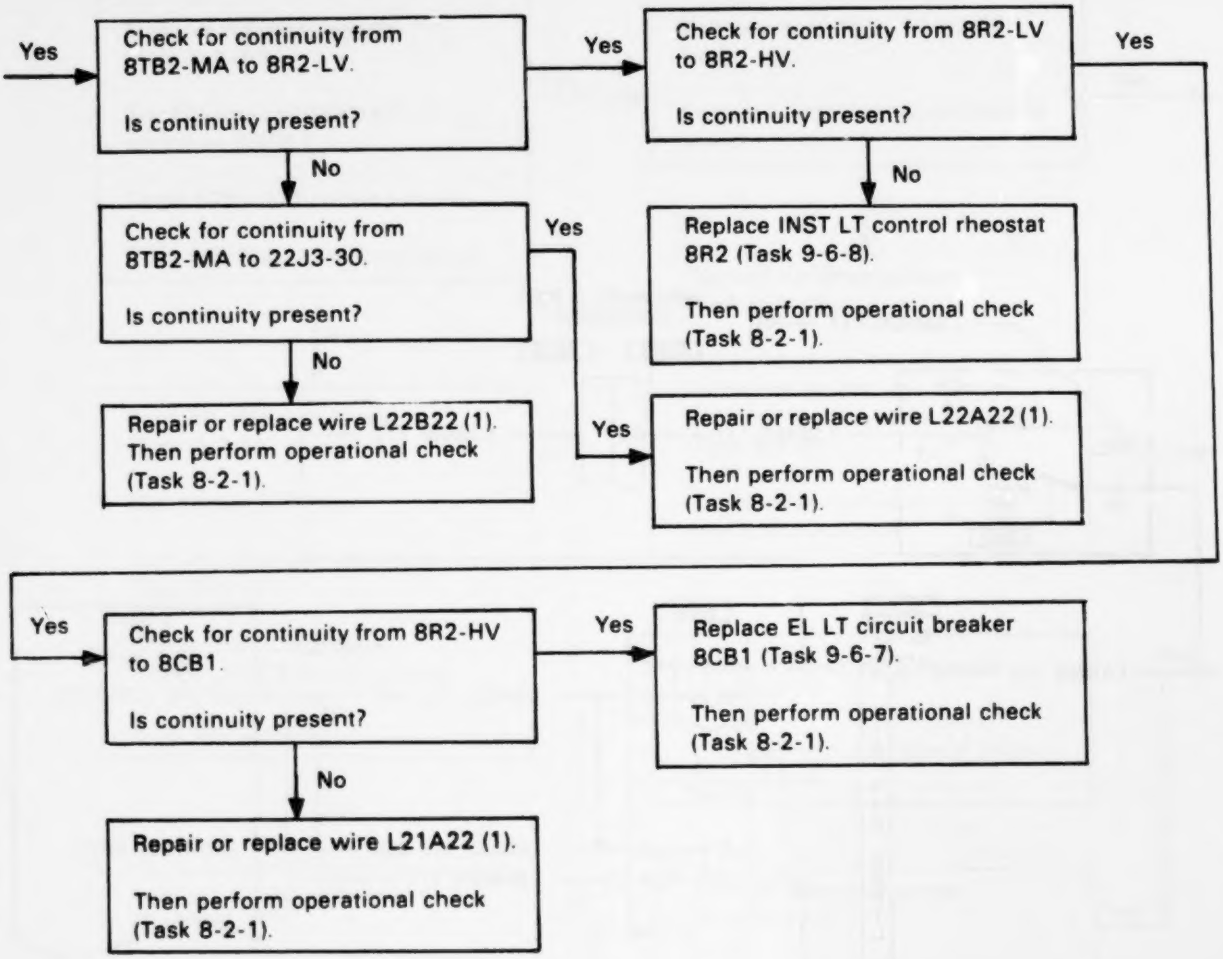
Connect 4M1P1.

Then perform operational check (Task 8-2-1).

Replace module M of terminal board 8TB2 (Task 9-6-47).

Then perform operational check (Task 8-2-1).

4. STANDBY ALTIMETER FAILS TO ILLUMINATE (CONT).



Check for continuity from 8TB2-MA to 8R2-LV.

Is continuity present?

Check for continuity from 8R2-LV to 8R2-HV.

Is continuity present?

Check for continuity from 8TB2-MA to 22J3-30.

Is continuity present?

Replace INST LT control rheostat 8R2 (Task 9-6-8).

Then perform operational check (Task 8-2-1).

Repair or replace wire L22B22 (1). Then perform operational check (Task 8-2-1).

Repair or replace wire L22A22 (1).

Then perform operational check (Task 8-2-1).

Check for continuity from 8R2-HV to 8CB1.

Is continuity present?

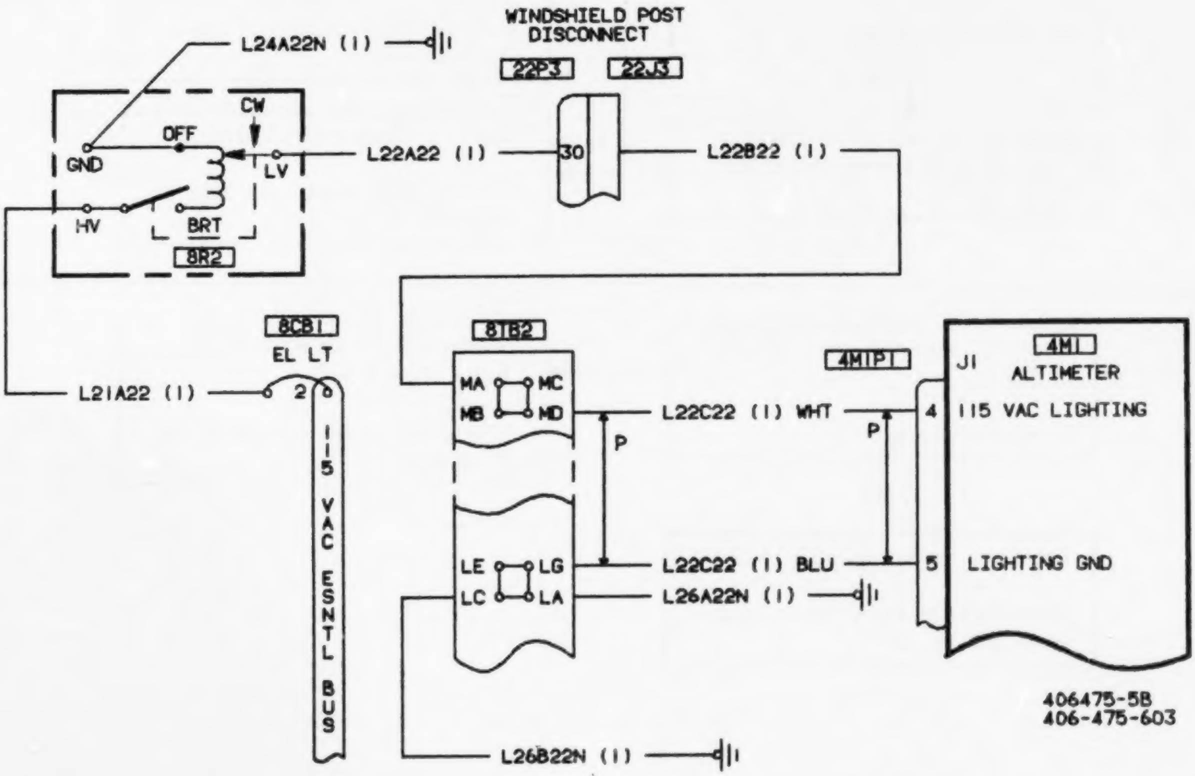
Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Then perform operational check (Task 8-2-1).

Repair or replace wire L21A22 (1).

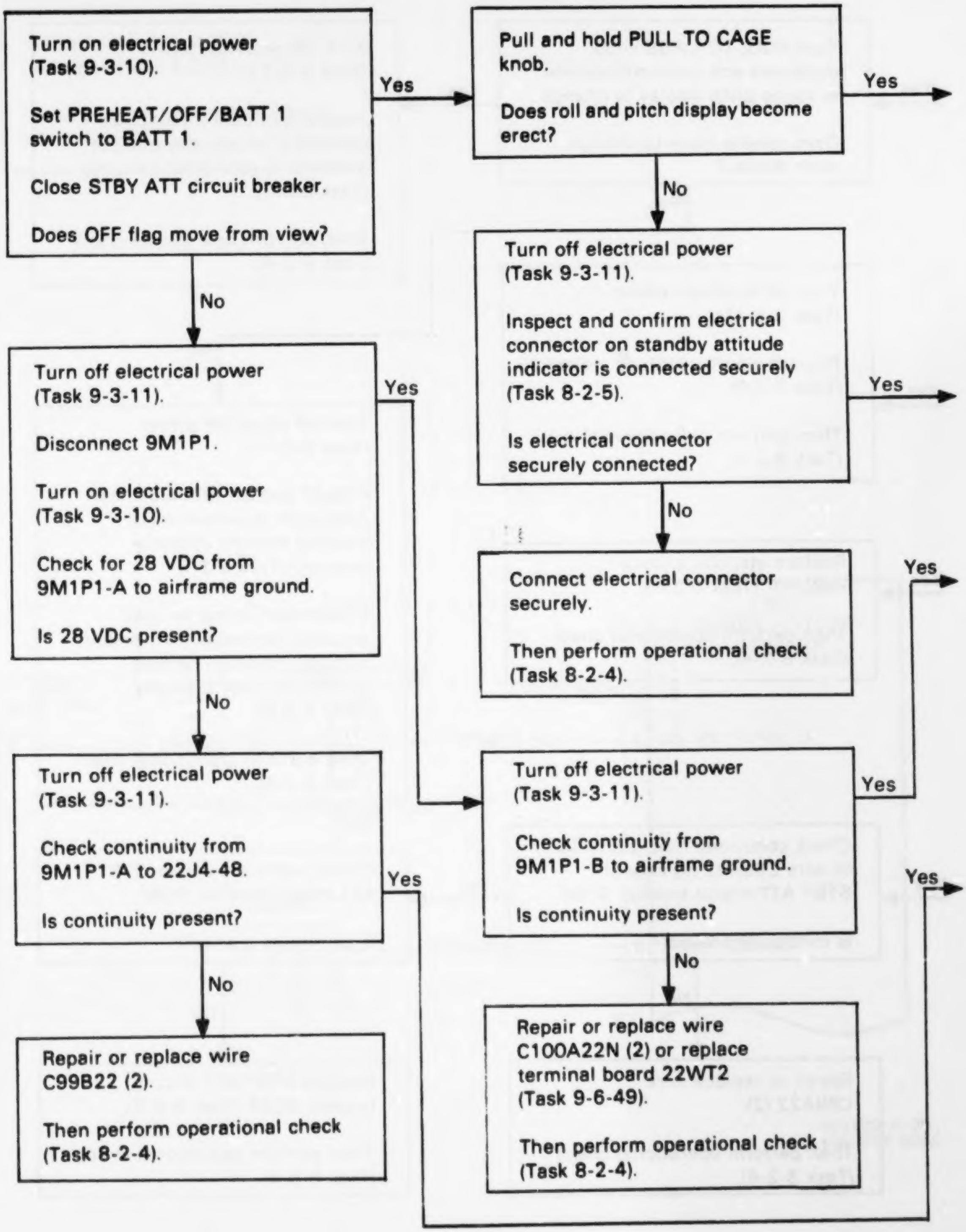
Then perform operational check (Task 8-2-1).

4. STANDBY ALTIMETER FAILS TO ILLUMINATE (CONT).


WINDSHIELD POST DISCONNECT
22P3
22J3
L24A22N (1)
CW
OFF
GND
LV
HV
BRT
8R2
L22A22 (1)
30
L22B22 (1)
8CB1
EL LT
2
L21A22 (1)
115 VAC ESNTL BUS
8TB2
MA
MC
MB
MD
LE
LG
LC
LA
P
L22C22 (1) WHT
L22C22 (1) BLU
L26A22N (1)
L26B22N (1)
4M1P1
4M1
J1
ALTIMETER
4
115 VAC LIGHTING
5
LIGHTING GND

406475-58
406-475-603

5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW.



Turn on electrical power (Task 9-3-10).

Set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close STBY ATT circuit breaker.

Does OFF flag move from view?

Pull and hold PULL TO CAGE knob.

Does roll and pitch display become erect?

Turn off electrical power (Task 9-3-11).

Inspect and confirm electrical connector on standby attitude indicator is connected securely (Task 8-2-5).

Is electrical connector securely connected?

Connect electrical connector securely.

Then perform operational check (Task 8-2-4).

Turn off electrical power (Task 9-3-11).

Disconnect 9M1P1.

Turn on electrical power (Task 9-3-10).

Check for 28 VDC from 9M1P1-A to airframe ground.

Is 28 VDC present?

Turn off electrical power (Task 9-3-11).

Check continuity from 9M1P1-A to 22J4-48.

Is continuity present?

Repair or replace wire C99B22 (2).

Then perform operational check (Task 8-2-4).

Turn off electrical power (Task 9-3-11).

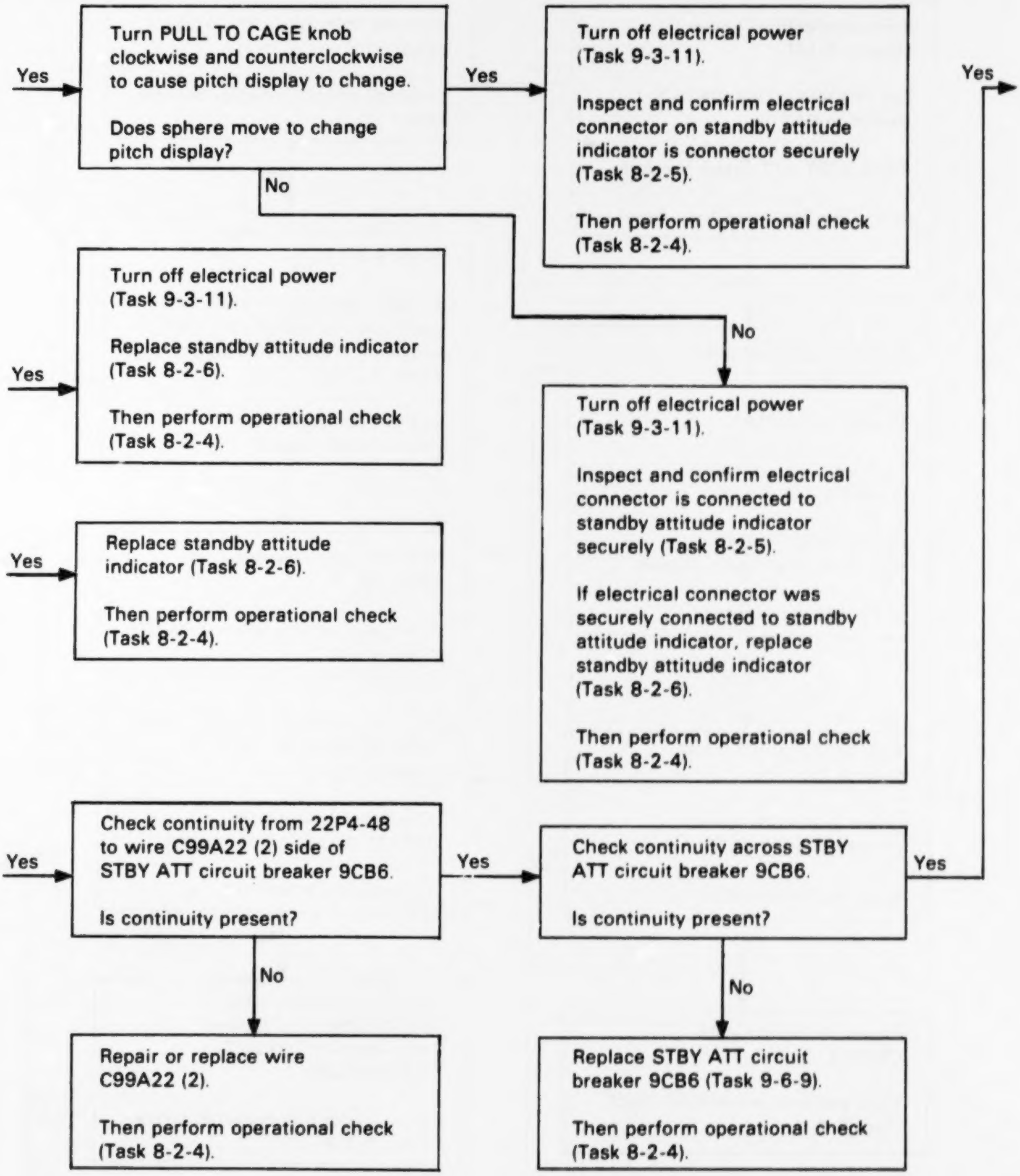
Check continuity from 9M1P1-B to airframe ground.

Is continuity present?

Repair or replace wire C100A22N (2) or replace terminal board 22WT2 (Task 9-6-49).

Then perform operational check (Task 8-2-4).

5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (CONT).



Turn PULL TO CAGE knob clockwise and counterclockwise to cause pitch display to change.

Does sphere move to change pitch display?

Turn off electrical power (Task 9-3-11).

Inspect and confirm electrical connector on standby attitude indicator is connector securely (Task 8-2-5).

Then perform operational check (Task 8-2-4).

Turn off electrical power (Task 9-3-11).

Replace standby attitude indicator (Task 8-2-6).

Then perform operational check (Task 8-2-4).

Turn off electrical power (Task 9-3-11).

Inspect and confirm electrical connector is connected to standby attitude indicator securely (Task 8-2-5).

If electrical connector was securely connected to standby attitude indicator, replace standby attitude indicator (Task 8-2-6).

Then perform operational check (Task 8-2-4).

Replace standby attitude indicator (Task 8-2-6).

Then perform operational check (Task 8-2-4).

Check continuity from 22P4-48 to wire C99A22 (2) side of STBY ATT circuit breaker 9CB6.

Is continuity present?

Check continuity across STBY ATT circuit breaker 9CB6.

Is continuity present?

Repair or replace wire C99A22 (2).

Then perform operational check (Task 8-2-4).

Replace STBY ATT circuit breaker 9CB6 (Task 9-6-9).

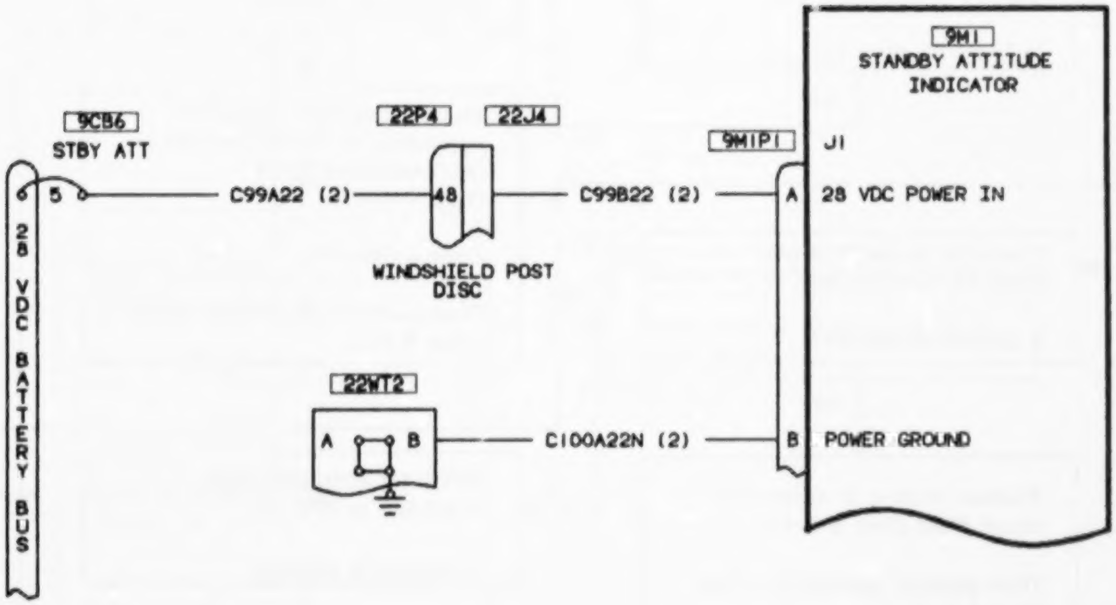
Then perform operational check (Task 8-2-4).

5. STANDBY ATTITUDE INDICATOR OFF FLAG DOES NOT MOVE FROM VIEW (CONT)

Yes →

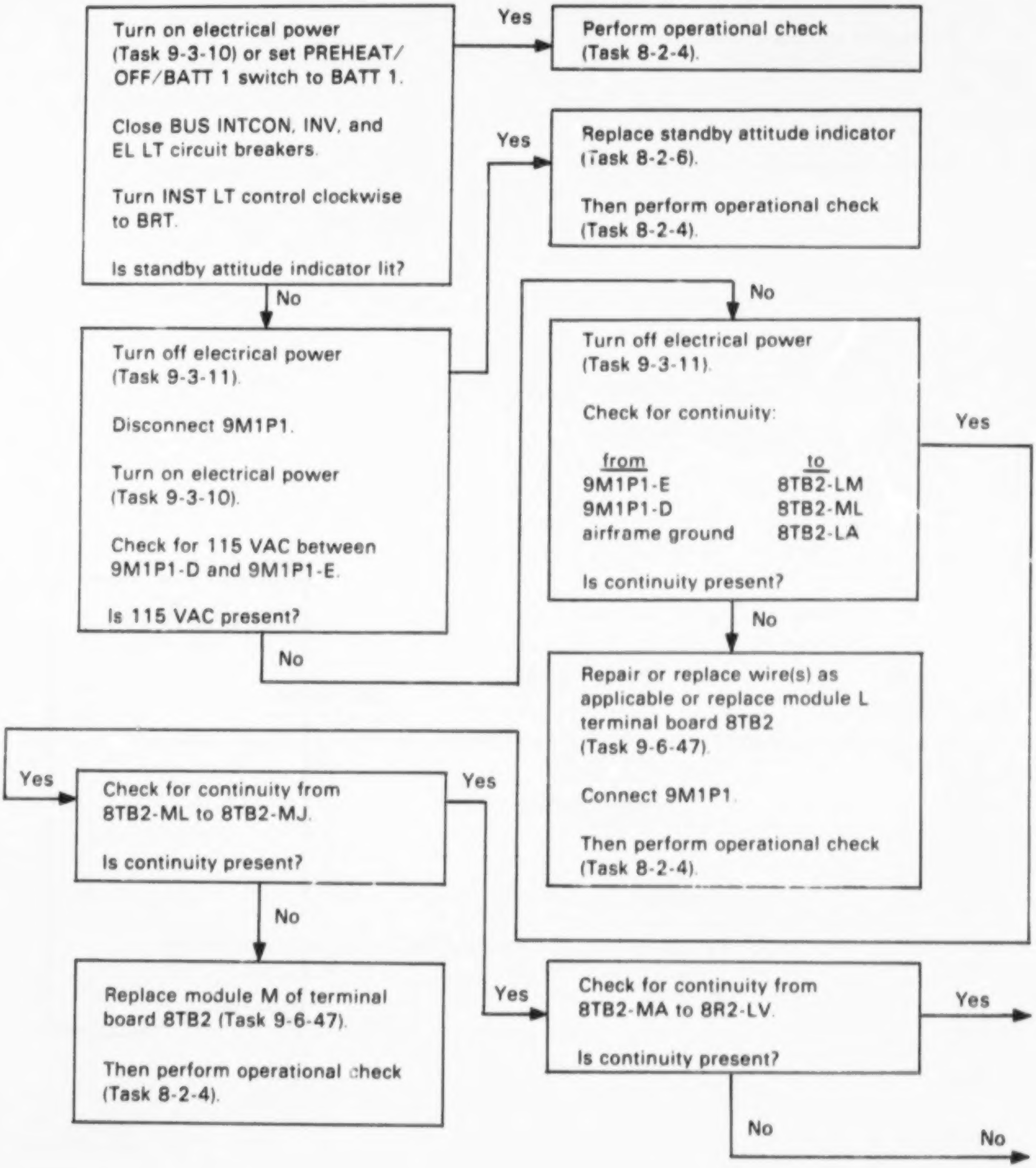
Replace standby attitude indicator (Task 8-2-6).

Then perform operational check (Task 8-2-4).


9CB6
STBY ATT
5
28 VDC BATTERY BUS
C99A22 (2)
22P4
22J4
48
WINDSHIELD POST DISC
C99B22 (2)
9M1
STANDBY ATTITUDE INDICATOR
9M1P1
J1
A
28 VDC POWER IN
22WT2
A
B
C100A22N (2)
B
POWER GROUND

406475-6-28
406-475-606C

6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE.



Turn on electrical power (Task 9-3-10) or set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close BUS INTCON, INV, and EL LT circuit breakers.

Turn INST LT control clockwise to BRT.

Is standby attitude indicator lit?

Perform operational check (Task 8-2-4).

Replace standby attitude indicator (Task 8-2-6).

Then perform operational check (Task 8-2-4).

Turn off electrical power (Task 9-3-11).

Disconnect 9M1P1.

Turn on electrical power (Task 9-3-10).

Check for 115 VAC between 9M1P1-D and 9M1P1-E.

Is 115 VAC present?

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
9M1P1-E	8TB2-LM
9M1P1-D	8TB2-ML
airframe ground	8TB2-LA

Is continuity present?

Repair or replace wire(s) as applicable or replace module L terminal board 8TB2 (Task 9-6-47).

Connect 9M1P1.

Then perform operational check (Task 8-2-4).

Check for continuity from 8TB2-ML to 8TB2-MJ.

Is continuity present?

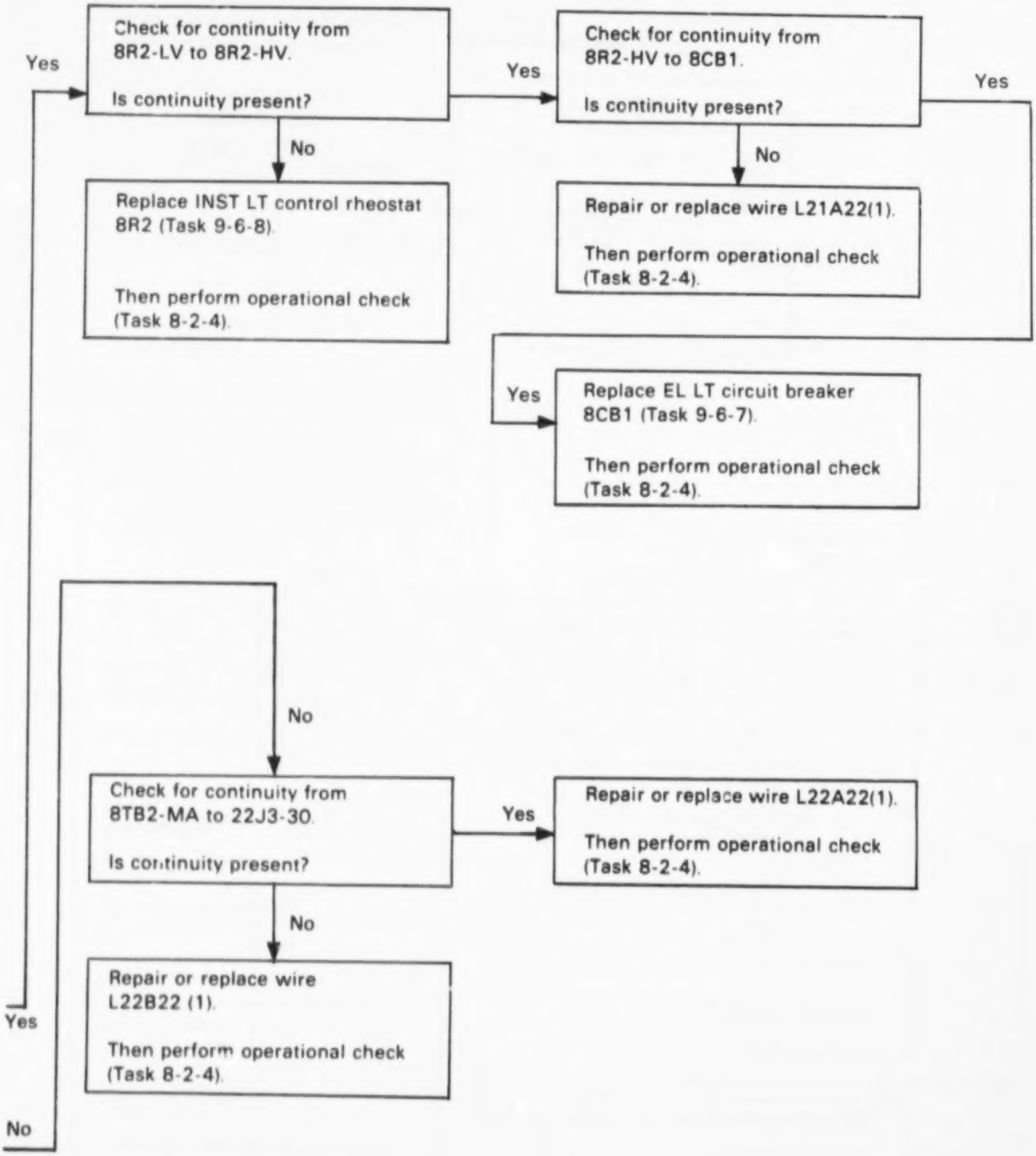
Replace module M of terminal board 8TB2 (Task 9-6-47).

Then perform operational check (Task 8-2-4).

Check for continuity from 8TB2-MA to 8R2-LV.

Is continuity present?

6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE (CONT).



Check for continuity from 8R2-LV to 8R2-HV.

Is continuity present?

Replace INST LT control rheostat 8R2 (Task 9-6-8).

Then perform operational check (Task 8-2-4).

Check for continuity from 8R2-HV to 8CB1.

Is continuity present?

Repair or replace wire L21A22(1).

Then perform operational check (Task 8-2-4).

Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Then perform operational check (Task 8-2-4).

Check for continuity from 8TB2-MA to 22J3-30.

Is continuity present?

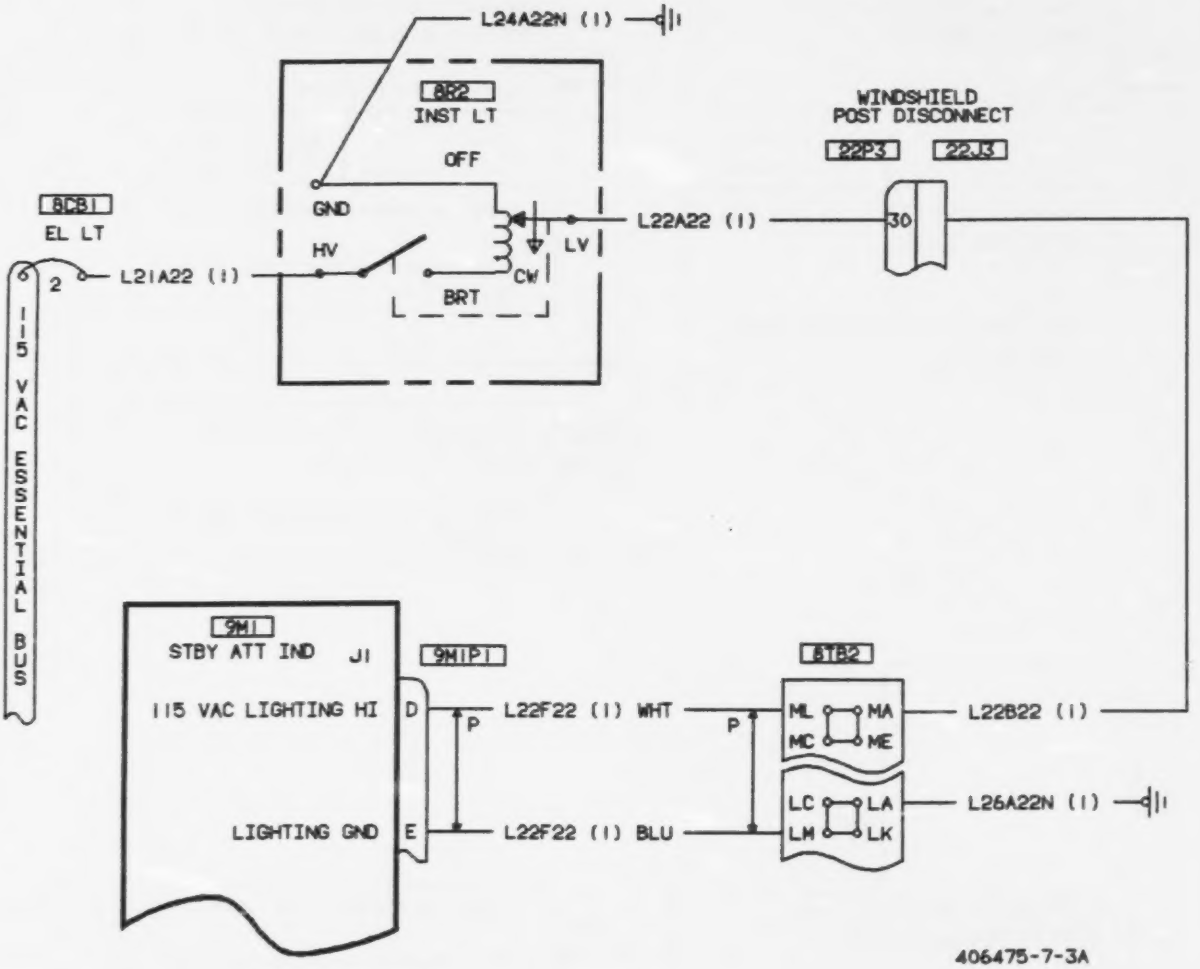
Repair or replace wire L22A22(1).

Then perform operational check (Task 8-2-4).

Repair or replace wire L22B22 (1).

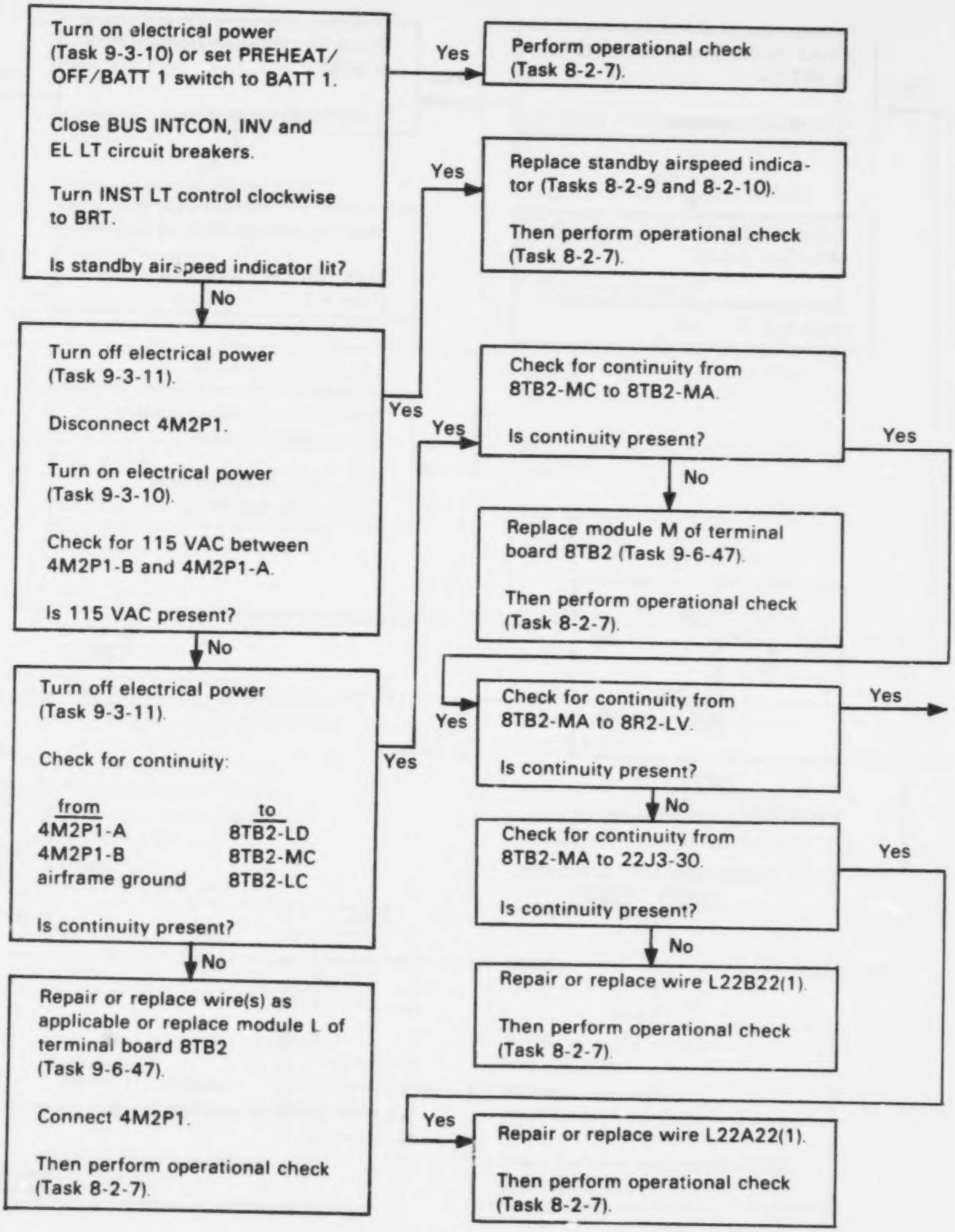
Then perform operational check (Task 8-2-4).

6. STANDBY ATTITUDE INDICATOR FAILS TO ILLUMINATE (CONT).


L24A22N (1)
8R2
INST LT
OFF
GND
HV
LV
CW
BRT
8CB1
EL LT
2
L21A22 (1)
115 VAC ESSENTIAL BUS
L22A22 (1)
WINDSHIELD POST DISCONNECT
22P3
22J3
30
9M1
STBY ATT IND
J1
9M1P1
115 VAC LIGHTING HI
LIGHTING GND
D
E
P
L22F22 (1) WHT
L22F22 (1) BLU
8TB2
ML
MA
MC
ME
LC
LA
LM
LK
L22B22 (1)
L26A22N (1)

406475-7-3A

7. STANDBY AIRSPEED INDICATOR FAILS TO ILLUMINATE.



Turn on electrical power (Task 9-3-10) or set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close BUS INTCON, INV and EL LT circuit breakers.

Turn INST LT control clockwise to BRT.

Is standby airspeed indicator lit?

Perform operational check (Task 8-2-7).

Turn off electrical power (Task 9-3-11).

Disconnect 4M2P1.

Turn on electrical power (Task 9-3-10).

Check for 115 VAC between 4M2P1-B and 4M2P1-A.

Is 115 VAC present?

Replace standby airspeed indicator (Tasks 8-2-9 and 8-2-10).

Then perform operational check (Task 8-2-7).

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
4M2P1-A	8TB2-LD
4M2P1-B	8TB2-MC
airframe ground	8TB2-LC

Is continuity present?

Repair or replace wire(s) as applicable or replace module L of terminal board 8TB2 (Task 9-6-47).

Connect 4M2P1.

Then perform operational check (Task 8-2-7).

Check for continuity from 8TB2-MC to 8TB2-MA.

Is continuity present?

Replace module M of terminal board 8TB2 (Task 9-6-47).

Then perform operational check (Task 8-2-7).

Check for continuity from 8TB2-MA to 8R2-LV.

Is continuity present?

Check for continuity from 8TB2-MA to 22J3-30.

Is continuity present?

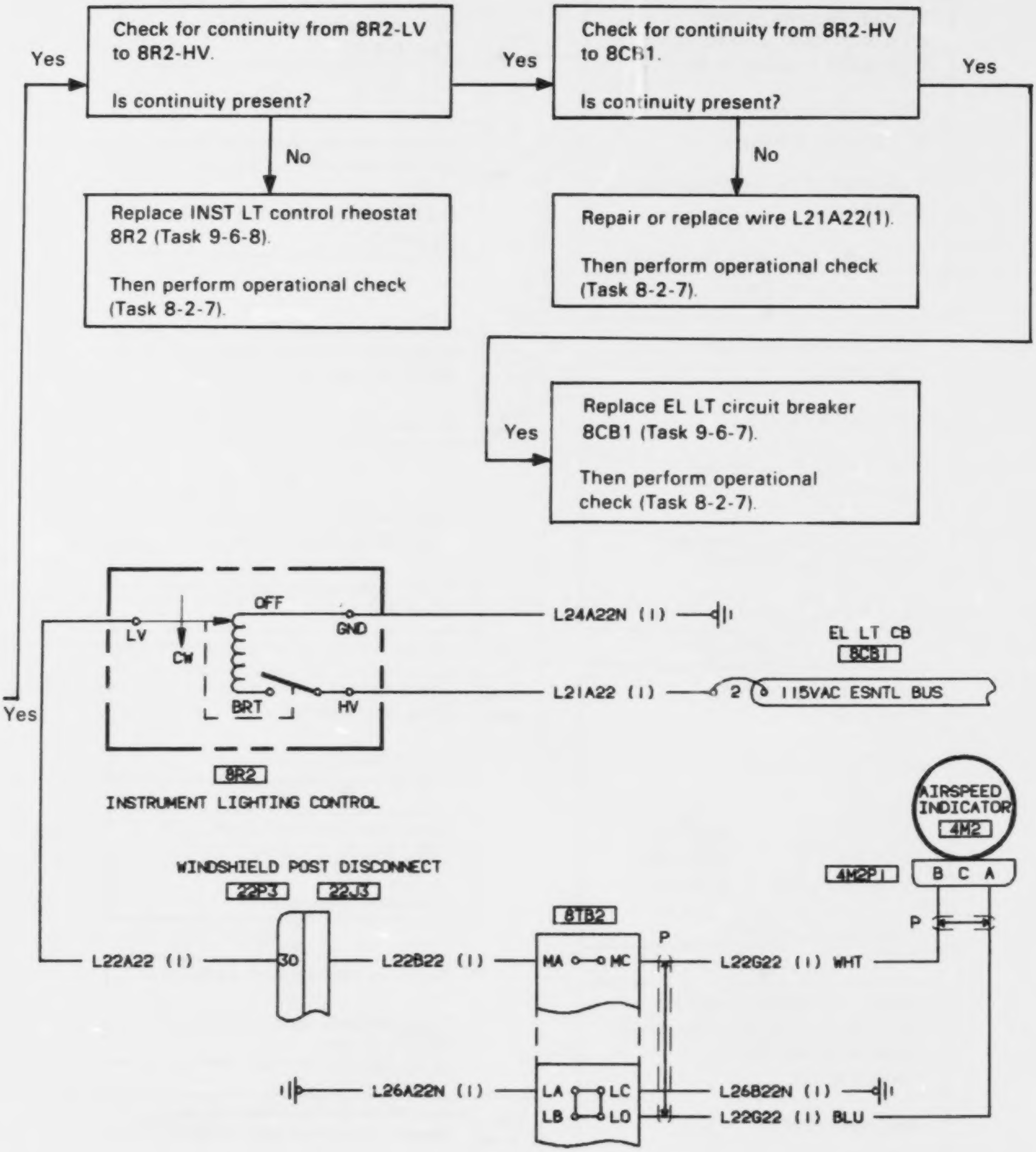
Repair or replace wire L22B22(1).

Then perform operational check (Task 8-2-7).

Repair or replace wire L22A22(1).

Then perform operational check (Task 8-2-7).

7. STANDBY AIRSPEED INDICATOR FAILS TO ILLUMINATE (CONT).



Check for continuity from 8R2-LV to 8R2-HV.

Is continuity present?

Replace INST LT control rheostat 8R2 (Task 9-6-8).

Then perform operational check (Task 8-2-7).

Check for continuity from 8R2-HV to 8CB1.

Is continuity present?

Repair or replace wire L21A22(1).

Then perform operational check (Task 8-2-7).

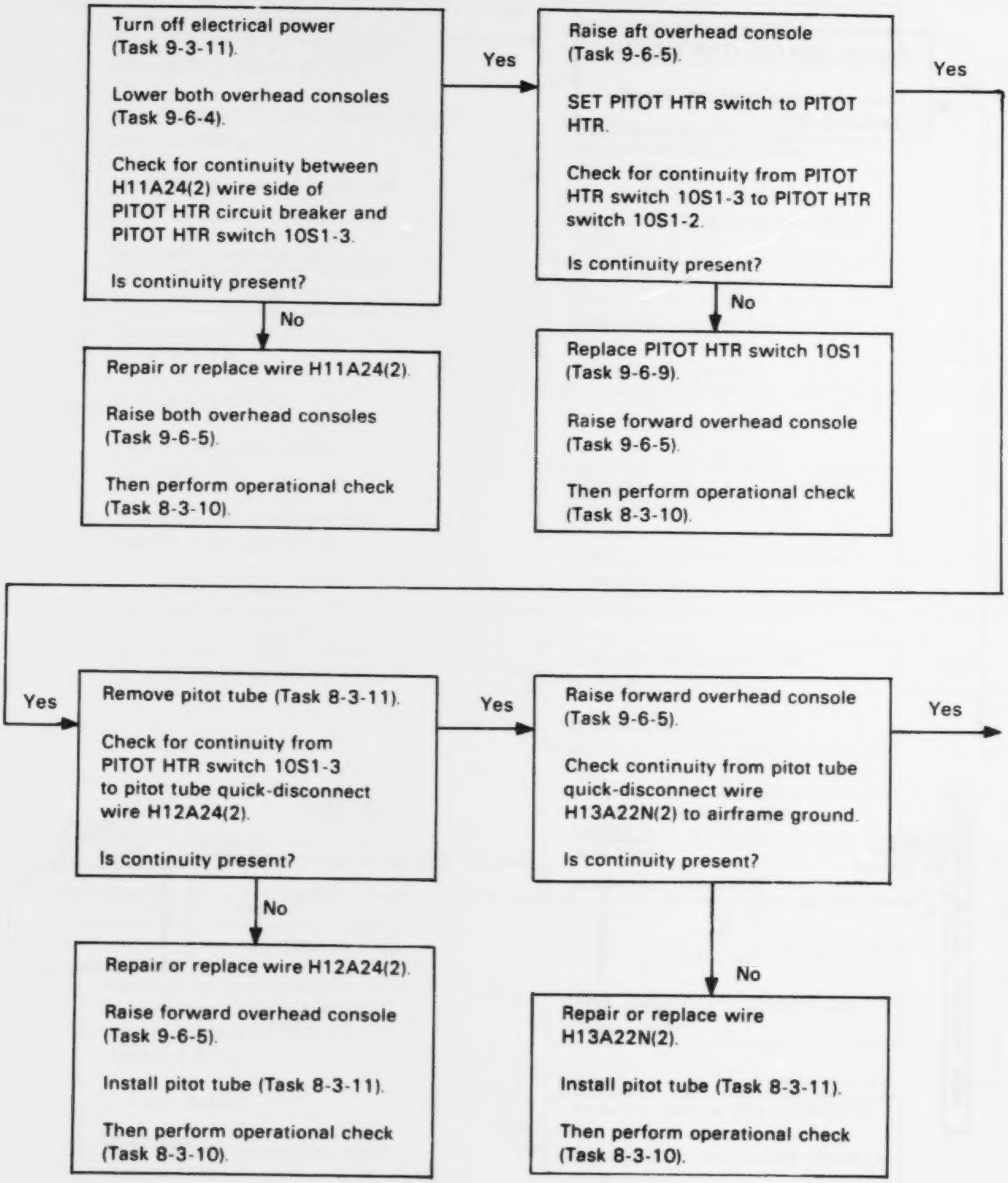
Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Then perform operational check (Task 8-2-7).

Yes
Yes
Yes
No
No
Yes
Yes
LV
CW
OFF
GND
BRT
HV
L24A22N (1)
L21A22 (1)
2
115VAC ESNTL BUS
EL LT CB
8CB1
8R2
INSTRUMENT LIGHTING CONTROL
AIRSPEED INDICATOR
4M2
4M2P1
B C A
WINDSHIELD POST DISCONNECT
22P3
22J3
30
8TB2
P
P
L22A22 (1)
L22B22 (1)
MA
MC
L22G22 (1) WHT
L26A22N (1)
LA
LC
LB
LD
L26B22N (1)
L22G22 (1) BLU

406475-8-4A
406-475-603

8. PITOT TUBE DOES NOT GET HOT.



Turn off electrical power (Task 9-3-11).

Lower both overhead consoles (Task 9-6-4).

Check for continuity between H11A24(2) wire side of PITOT HTR circuit breaker and PITOT HTR switch 10S1-3.

Is continuity present?

Repair or replace wire H11A24(2).

Raise both overhead consoles (Task 9-6-5).

Then perform operational check (Task 8-3-10).

Raise aft overhead console (Task 9-6-5).

SET PITOT HTR switch to PITOT HTR.

Check for continuity from PITOT HTR switch 10S1-3 to PITOT HTR switch 10S1-2.

Is continuity present?

Replace PITOT HTR switch 10S1 (Task 9-6-9).

Raise forward overhead console (Task 9-6-5).

Then perform operational check (Task 8-3-10).

Remove pitot tube (Task 8-3-11).

Check for continuity from PITOT HTR switch 10S1-3 to pitot tube quick-disconnect wire H12A24(2).

Is continuity present?

Repair or replace wire H12A24(2).

Raise forward overhead console (Task 9-6-5).

Install pitot tube (Task 8-3-11).

Then perform operational check (Task 8-3-10).

Raise forward overhead console (Task 9-6-5).

Check continuity from pitot tube quick-disconnect wire H13A22N(2) to airframe ground.

Is continuity present?

Repair or replace wire H13A22N(2).

Install pitot tube (Task 8-3-11).

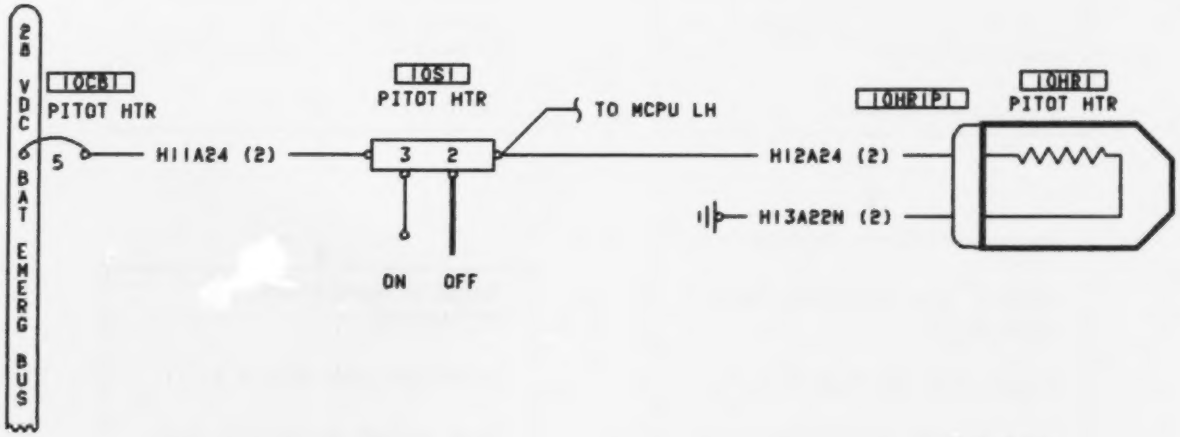
Then perform operational check (Task 8-3-10).

8. PITOT TUBE DOES NOT GET HOT (CONT).

Yes

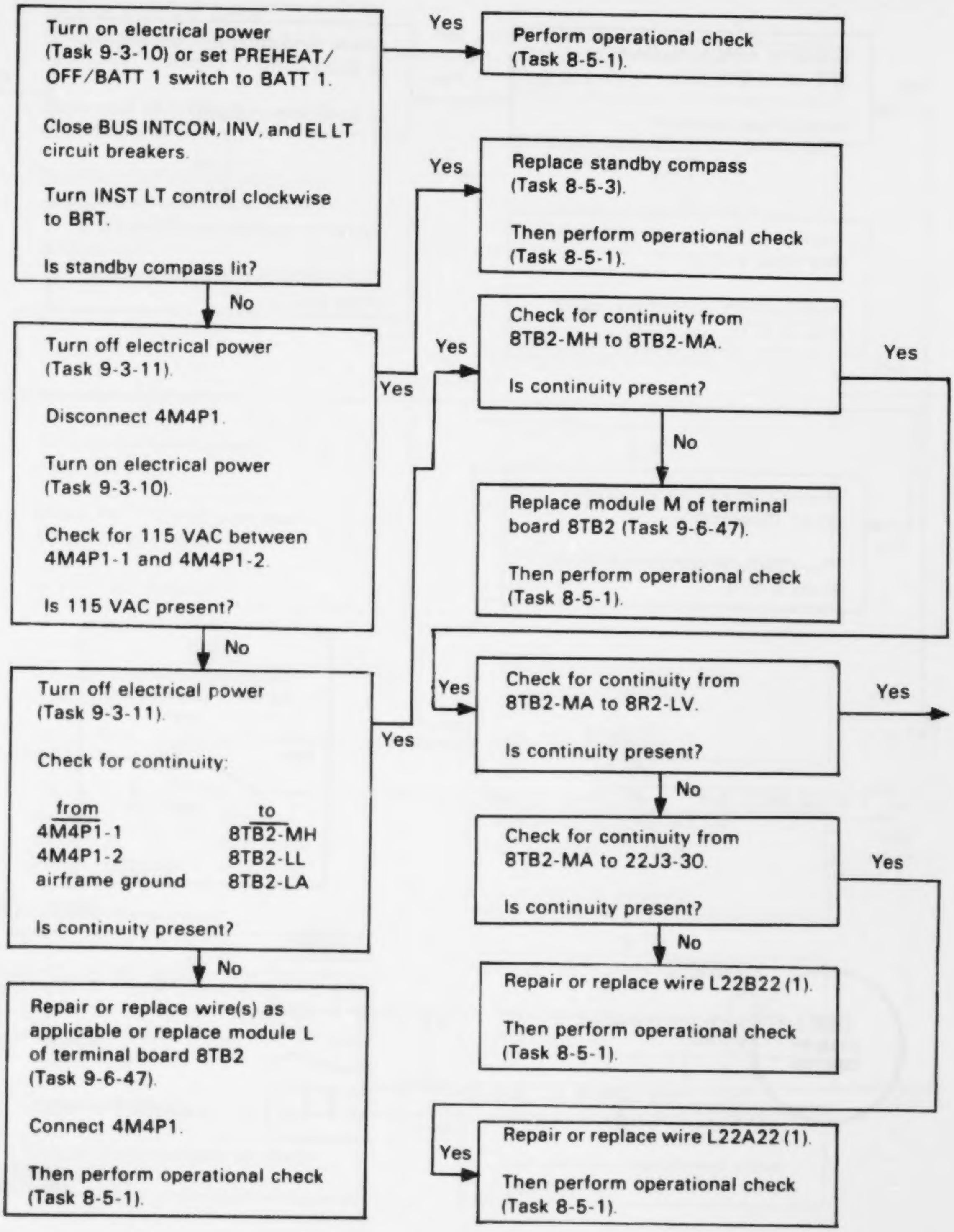
Replace pitot tube (Task 8-3-11).

Then perform operational check (Task 8-3-10).


28 VDC BAT EMERG BUS
1OCB1
PITOT HTR
5
H11A24 (2)
1OS1
PITOT HTR
3
2
ON
OFF
TO MCPU LH
H12A24 (2)
H13A22N (2)
1OHR1P1
1OHR1
PITOT HTR

406475-52

9. STANDBY COMPASS FAILS TO ILLUMINATE.



Turn on electrical power (Task 9-3-10) or set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close BUS INTCON, INV, and EL LT circuit breakers.

Turn INST LT control clockwise to BRT.

Is standby compass lit?

Perform operational check (Task 8-5-1).

Turn off electrical power (Task 9-3-11).

Disconnect 4M4P1.

Turn on electrical power (Task 9-3-10).

Check for 115 VAC between 4M4P1-1 and 4M4P1-2.

Is 115 VAC present?

Replace standby compass (Task 8-5-3).

Then perform operational check (Task 8-5-1).

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
4M4P1-1	8TB2-MH
4M4P1-2	8TB2-LL
airframe ground	8TB2-LA

Is continuity present?

Repair or replace wire(s) as applicable or replace module L of terminal board 8TB2 (Task 9-6-47).

Connect 4M4P1.

Then perform operational check (Task 8-5-1).

Check for continuity from 8TB2-MH to 8TB2-MA.

Is continuity present?

Replace module M of terminal board 8TB2 (Task 9-6-47).

Then perform operational check (Task 8-5-1).

Check for continuity from 8TB2-MA to 8R2-LV.

Is continuity present?

Check for continuity from 8TB2-MA to 22J3-30.

Is continuity present?

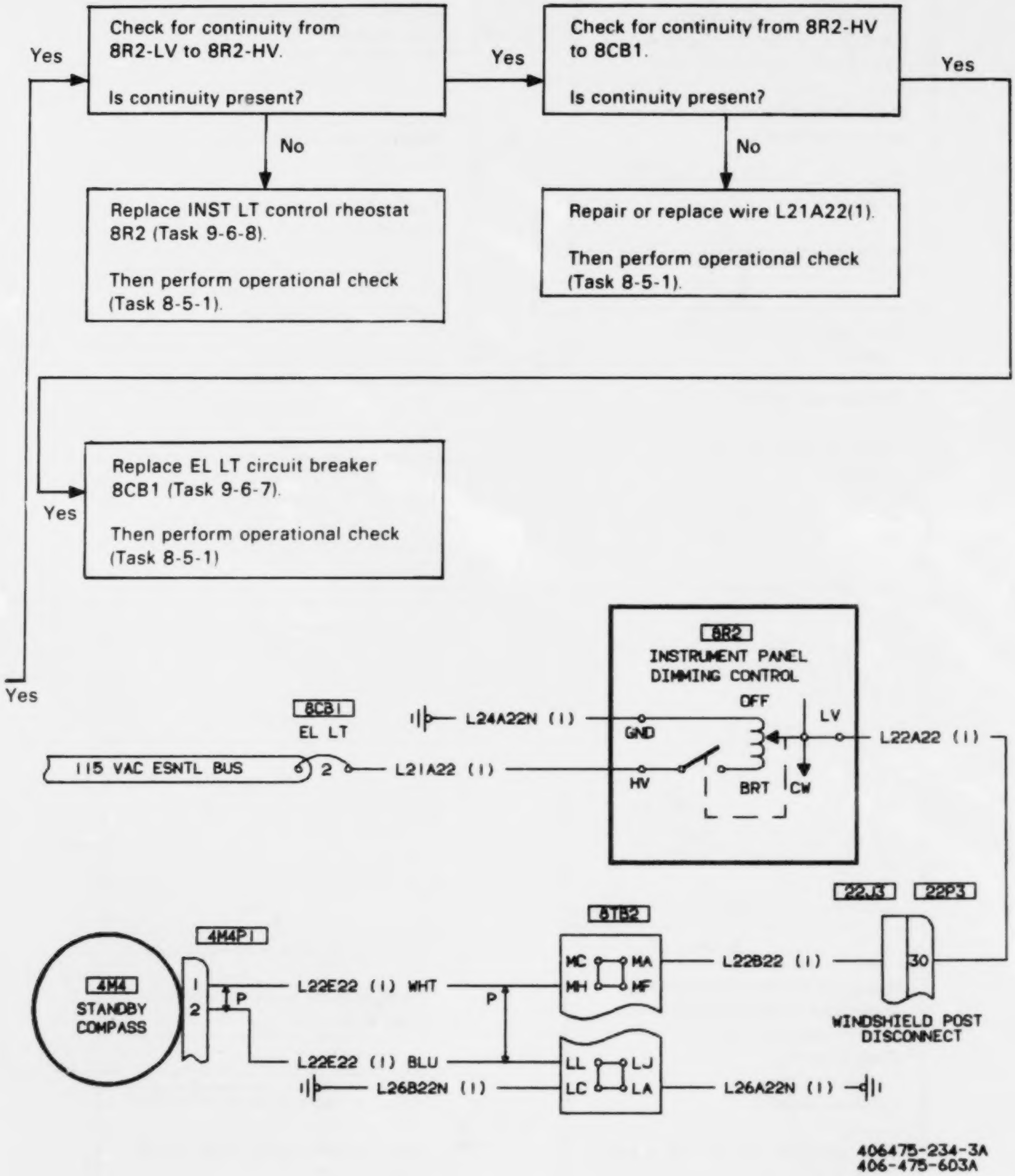
Repair or replace wire L22B22 (1).

Then perform operational check (Task 8-5-1).

Repair or replace wire L22A22 (1).

Then perform operational check (Task 8-5-1).

9. STANDBY COMPASS FAILS TO ILLUMINATE (CONT).



Check for continuity from 8R2-LV to 8R2-HV.

Is continuity present?

Replace INST LT control rheostat 8R2 (Task 9-6-8).

Then perform operational check (Task 8-5-1).

Check for continuity from 8R2-HV to 8CB1.

Is continuity present?

Repair or replace wire L21A22(1).

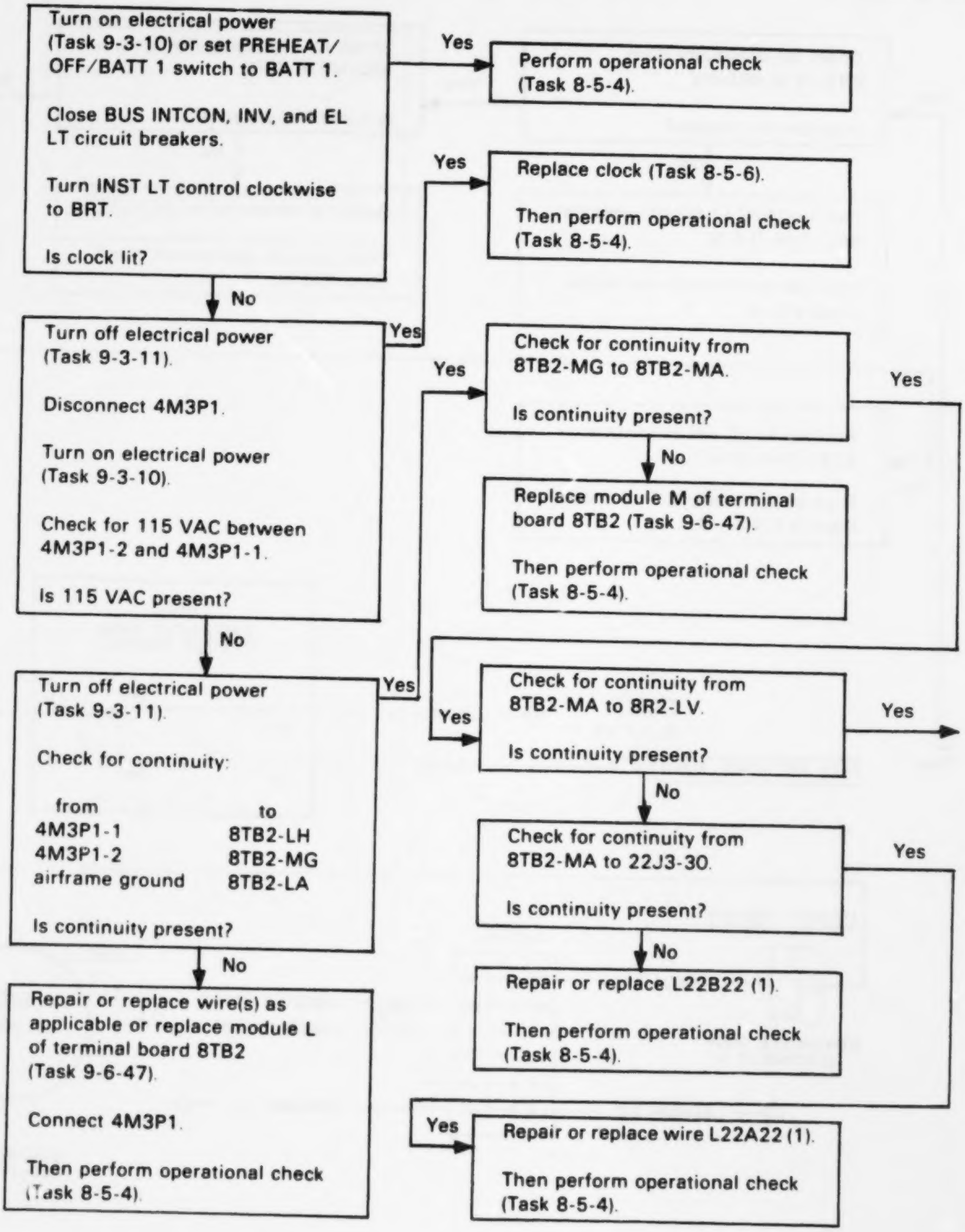
Then perform operational check (Task 8-5-1).

Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Then perform operational check (Task 8-5-1)

Yes
Yes
Yes
No
No
Yes
Yes
8R2
INSTRUMENT PANEL
DIMMING CONTROL
OFF
GND
LV
HV
BRT
CW
8CB1
EL LT
L24A22N (1)
L22A22 (1)
115 VAC ESNTL BUS
2
L21A22 (1)
22J3
22P3
8TB2
4M4P1
4M4
STANDBY
COMPASS
1
2
P
L22E22 (1) WHT
P
MC
MA
MH
MF
L22B22 (1)
30
WINDSHIELD POST
DISCONNECT
L22E22 (1) BLU
LL
LJ
LC
LA
L26B22N (1)
L26A22N (1)
406475-234-3A
406-475-603A

10. CLOCK FAILS TO ILLUMINATE.



Turn on electrical power (Task 9-3-10) or set PREHEAT/OFF/BATT 1 switch to BATT 1.

Close BUS INTCON, INV, and EL LT circuit breakers.

Turn INST LT control clockwise to BRT.

Is clock lit?

Turn off electrical power (Task 9-3-11).

Disconnect 4M3P1.

Turn on electrical power (Task 9-3-10).

Check for 115 VAC between 4M3P1-2 and 4M3P1-1.

Is 115 VAC present?

Turn off electrical power (Task 9-3-11).

Check for continuity:

from	to
4M3P1-1	8TB2-LH
4M3P1-2	8TB2-MG
airframe ground	8TB2-LA

Is continuity present?

Repair or replace wire(s) as applicable or replace module L of terminal board 8TB2 (Task 9-6-47).

Connect 4M3P1.

Then perform operational check (Task 8-5-4).

Perform operational check (Task 8-5-4).

Replace clock (Task 8-5-6).

Then perform operational check (Task 8-5-4).

Check for continuity from 8TB2-MG to 8TB2-MA.

Is continuity present?

Replace module M of terminal board 8TB2 (Task 9-6-47).

Then perform operational check (Task 8-5-4).

Check for continuity from 8TB2-MA to 8R2-LV.

Is continuity present?

Check for continuity from 8TB2-MA to 22J3-30.

Is continuity present?

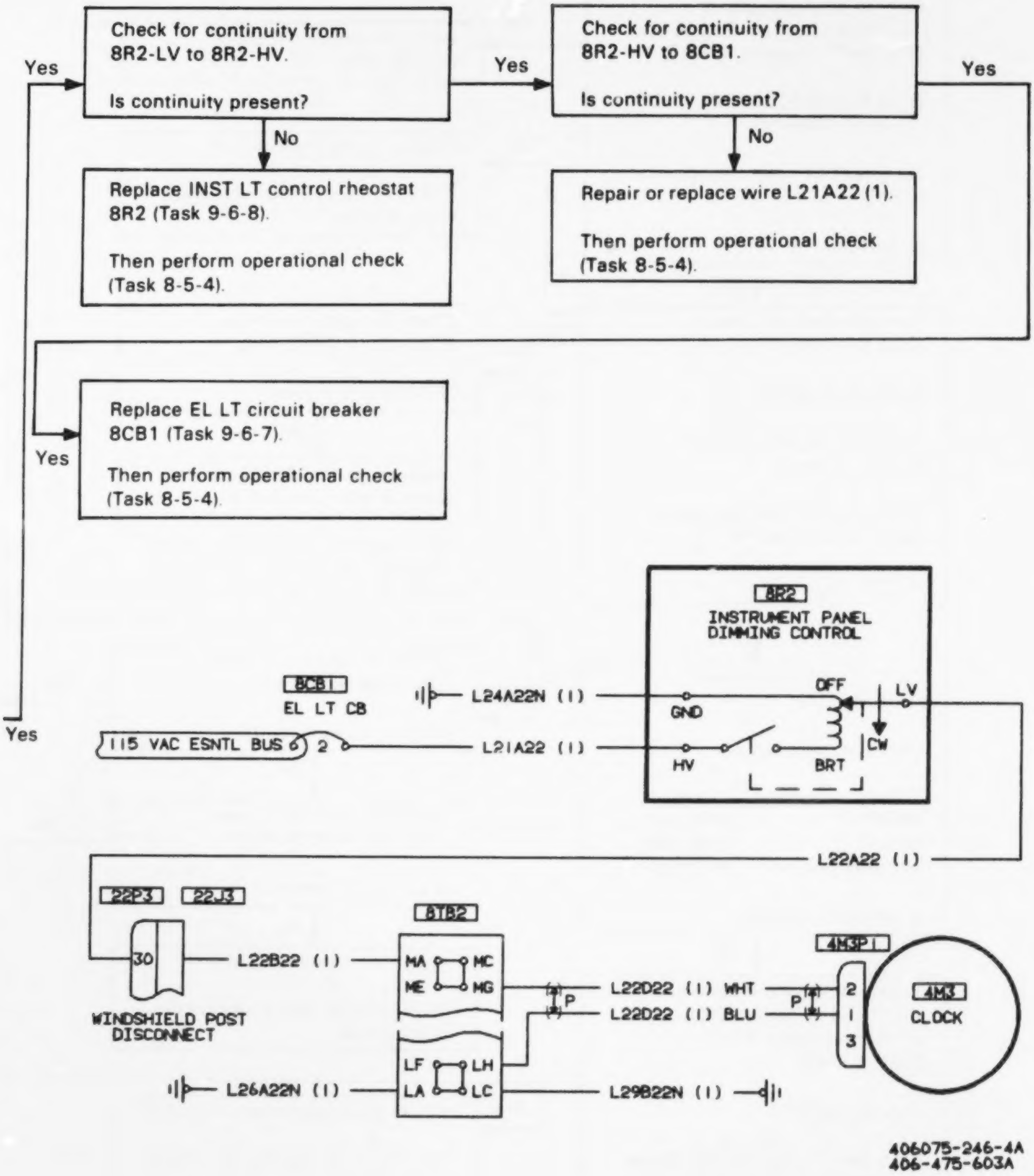
Repair or replace L22B22 (1).

Then perform operational check (Task 8-5-4).

Repair or replace wire L22A22 (1).

Then perform operational check (Task 8-5-4).

10. CLOCK FAILS TO ILLUMINATE (CONT).



Check for continuity from 8R2-LV to 8R2-HV.

Is continuity present?

No: Replace INST LT control rheostat 8R2 (Task 9-6-8).

Then perform operational check (Task 8-5-4).

Yes: Check for continuity from 8R2-HV to 8CB1.

Is continuity present?

No: Repair or replace wire L21A22 (1).

Then perform operational check (Task 8-5-4).

Yes: Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Then perform operational check (Task 8-5-4).

Yes
Yes
Yes
Yes
No
No
8R2
INSTRUMENT PANEL DIMMING CONTROL
OFF
LV
GND
CW
HV
BRT
8CB1
EL LT CB
L24A22N (1)
115 VAC ESNTL BUS
2
L21A22 (1)
L22A22 (1)
22P3
22J3
30
L22B22 (1)
WINDSHIELD POST DISCONNECT
8TB2
MA
MC
ME
MG
LF
LH
LA
LC
P
L22D22 (1) WHT
L22D22 (1) BLU
4M3P1
2
1
3
4M3
CLOCK
L26A22N (1)
L29B22N (1)

406075-246-4A
406-475-603A

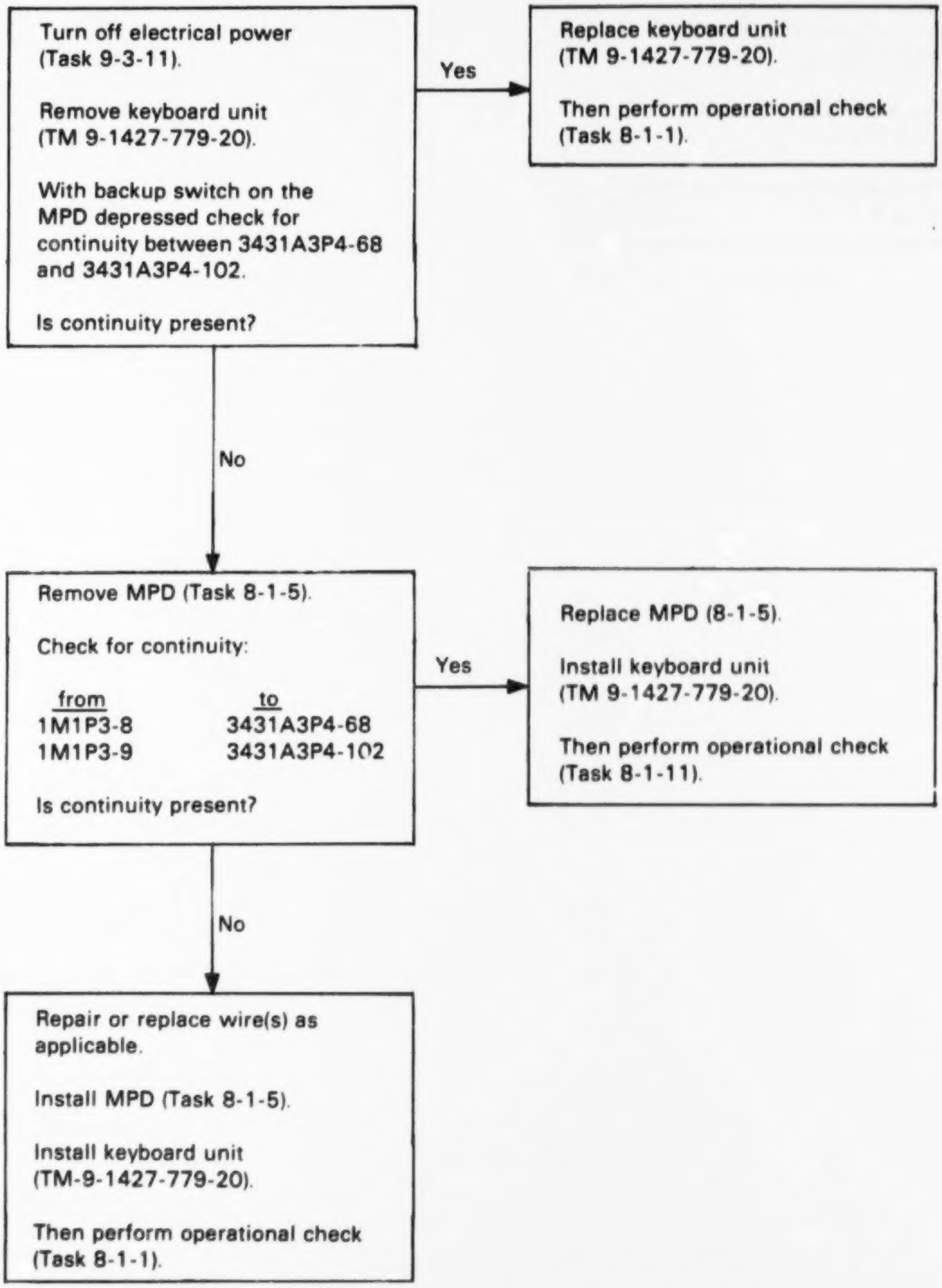
11. STANDBY ALTIMETER POINTER STICKS.

Turn off electrical power (Task 9-3-11).

Replace standby altimeter (Task 8-2-3).

Then perform operational check (Task 8-3-1).

12. MFD DOES NOT INDICATE RPM AND TRQ READINGS WITH BACKUP SWITCH DEPRESSED.



Turn off electrical power (Task 9-3-11).

Remove keyboard unit (TM 9-1427-779-20).

With backup switch on the MPD depressed check for continuity between 3431A3P4-68 and 3431A3P4-102.

Is continuity present?

Replace keyboard unit (TM 9-1427-779-20).

Then perform operational check (Task 8-1-1).

Remove MPD (Task 8-1-5).

Check for continuity:

from	to
1M1P3-8	3431A3P4-68
1M1P3-9	3431A3P4-102

Is continuity present?

Replace MPD (8-1-5).

Install keyboard unit (TM 9-1427-779-20).

Then perform operational check (Task 8-1-11).

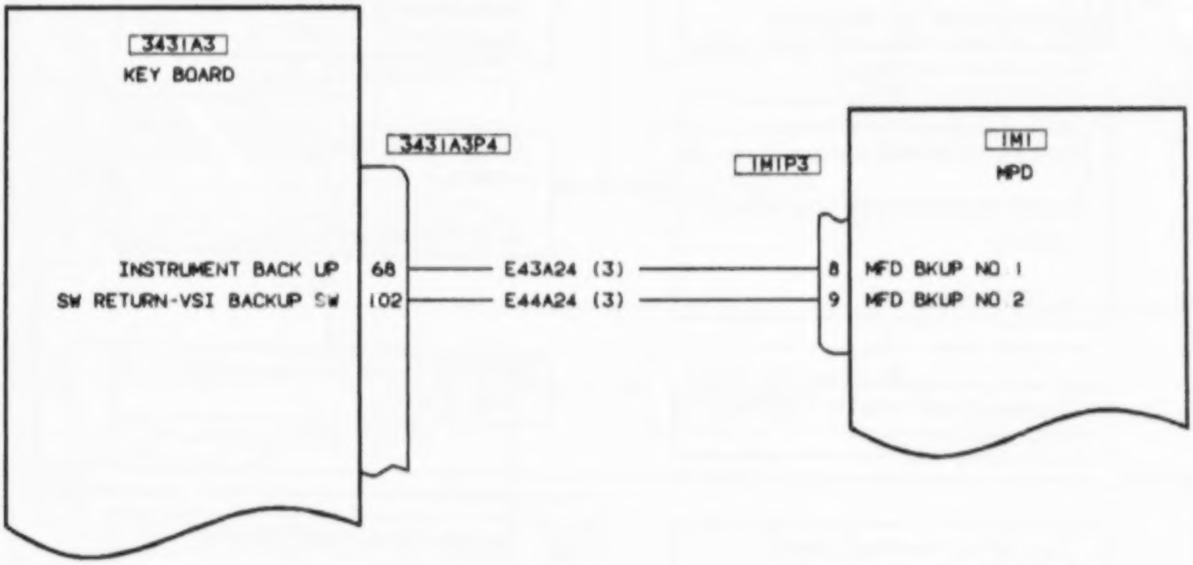
Repair or replace wire(s) as applicable.

Install MPD (Task 8-1-5).

Install keyboard unit (TM-9-1427-779-20).

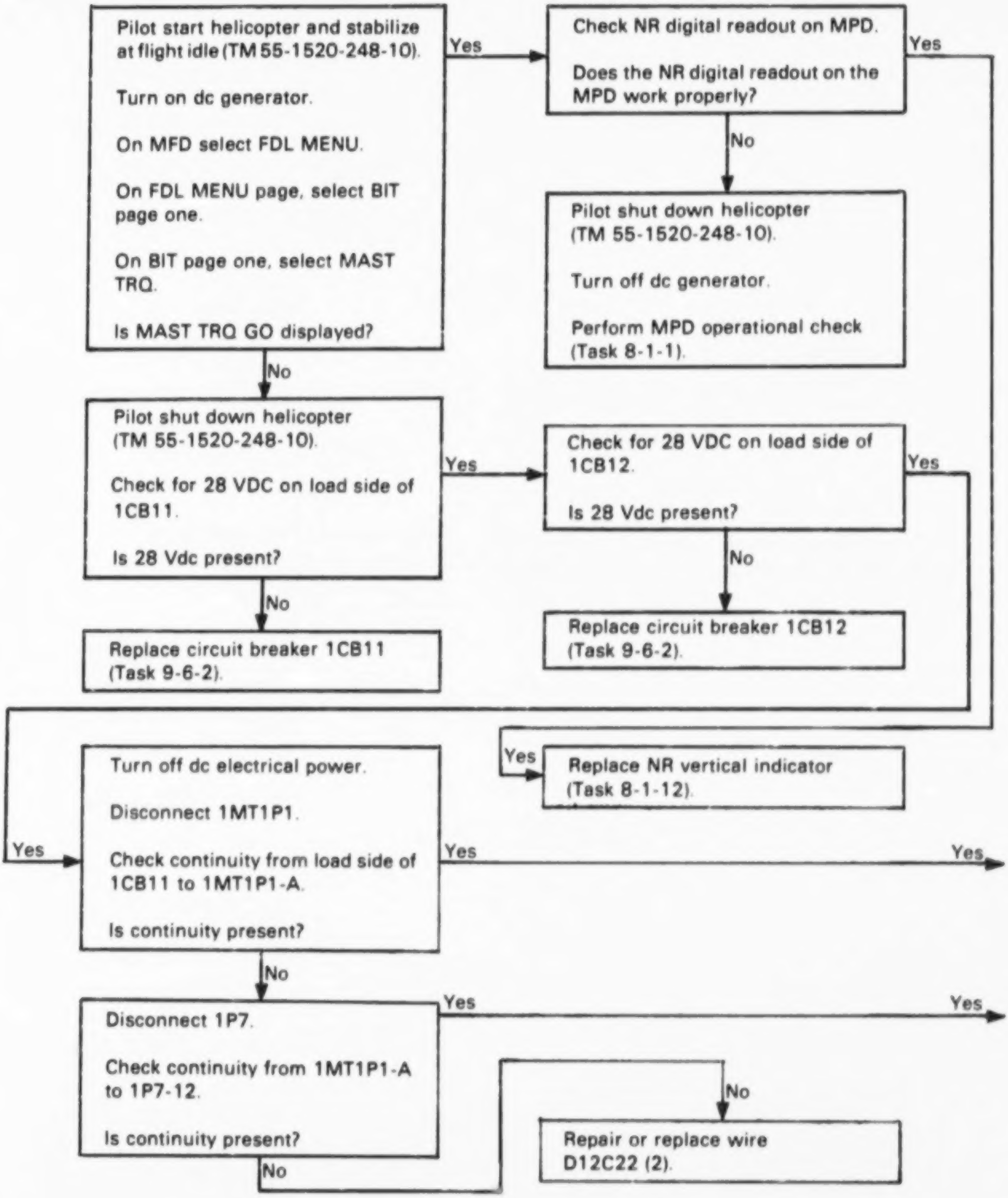
Then perform operational check (Task 8-1-1).

12. MFD DOES NOT INDICATE RPM AND TRQ READINGS WITH BACKUP SWITCH DEPRESSED (CONT).


3431A3
KEY BOARD
3431A3P4
INSTRUMENT BACK UP
SW RETURN-VSI BACKUP SW
68
102
E43A24 (3)
E44A24 (3)
1M1P3
1M1
MPD
8
9
MFD BKUP NO 1
MFD BKUP NO 2

406475-236
406-475-605

13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP



Pilot start helicopter and stabilize at flight idle (TM 55-1520-248-10).

Turn on dc generator.

On MFD select FDL MENU.

On FDL MENU page, select BIT page one.

On BIT page one, select MAST TRQ.

Is MAST TRQ GO displayed?

Check NR digital readout on MPD.

Does the NR digital readout on the MPD work properly?

Pilot shut down helicopter (TM 55-1520-248-10).

Turn off dc generator.

Perform MPD operational check (Task 8-1-1).

Pilot shut down helicopter (TM 55-1520-248-10).

Check for 28 VDC on load side of 1CB11.

Is 28 Vdc present?

Check for 28 VDC on load side of 1CB12.

Is 28 Vdc present?

Replace circuit breaker 1CB11 (Task 9-6-2).

Replace circuit breaker 1CB12 (Task 9-6-2).

Replace NR vertical indicator (Task 8-1-12).

Turn off dc electrical power.

Disconnect 1MT1P1.

Check continuity from load side of 1CB11 to 1MT1P1-A.

Is continuity present?

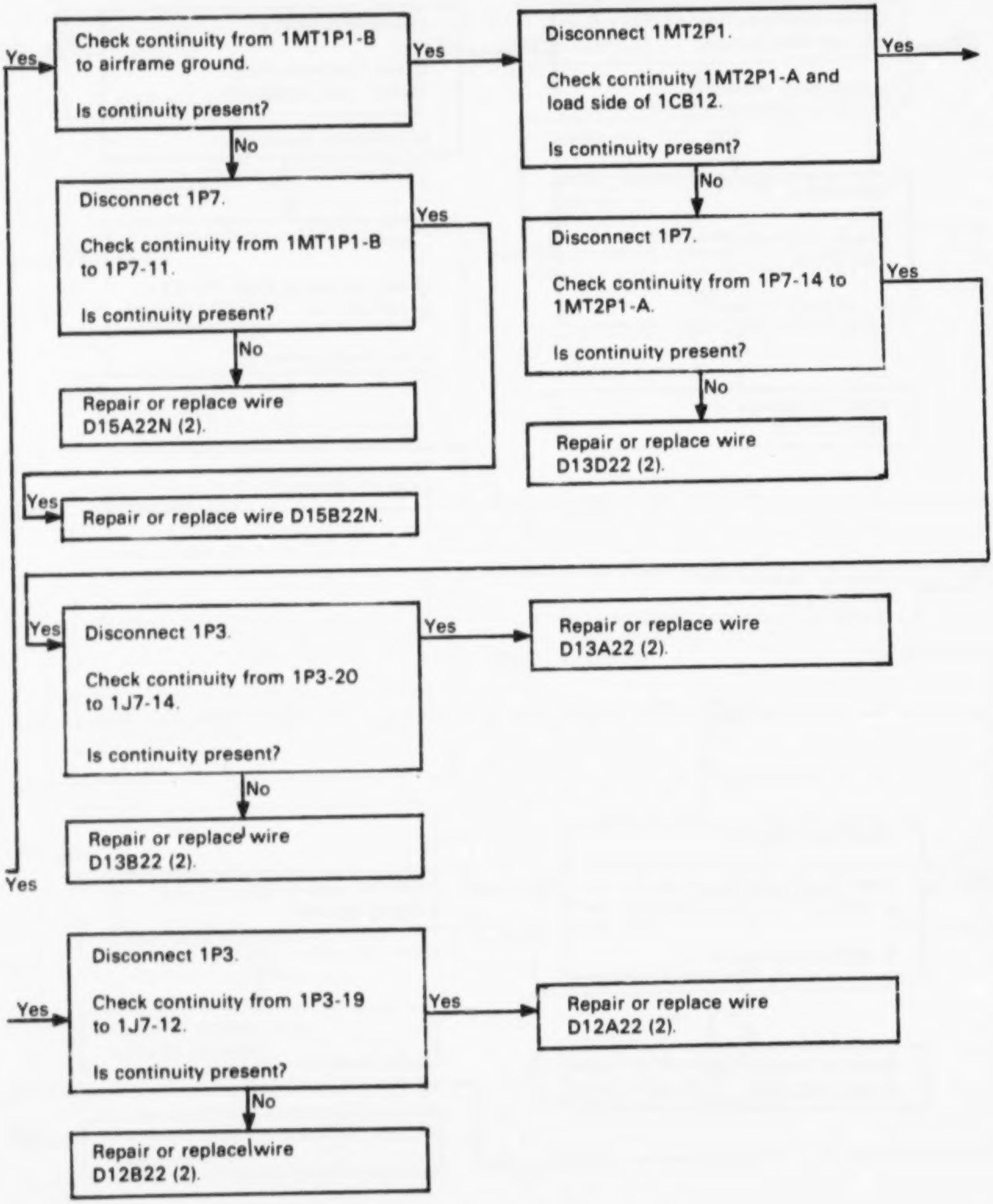
Disconnect 1P7.

Check continuity from 1MT1P1-A to 1P7-12.

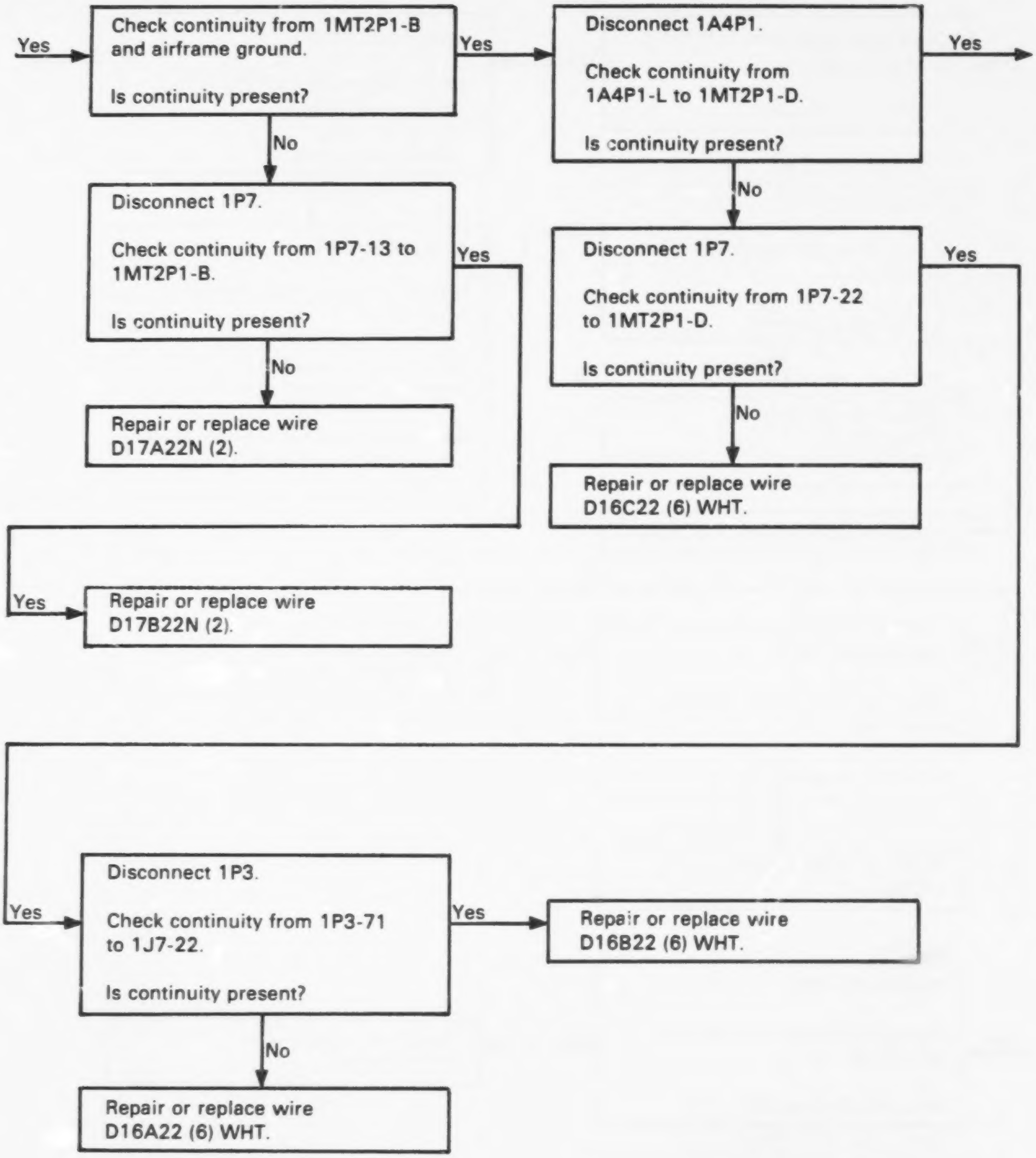
Is continuity present?

Repair or replace wire D12C22 (2).

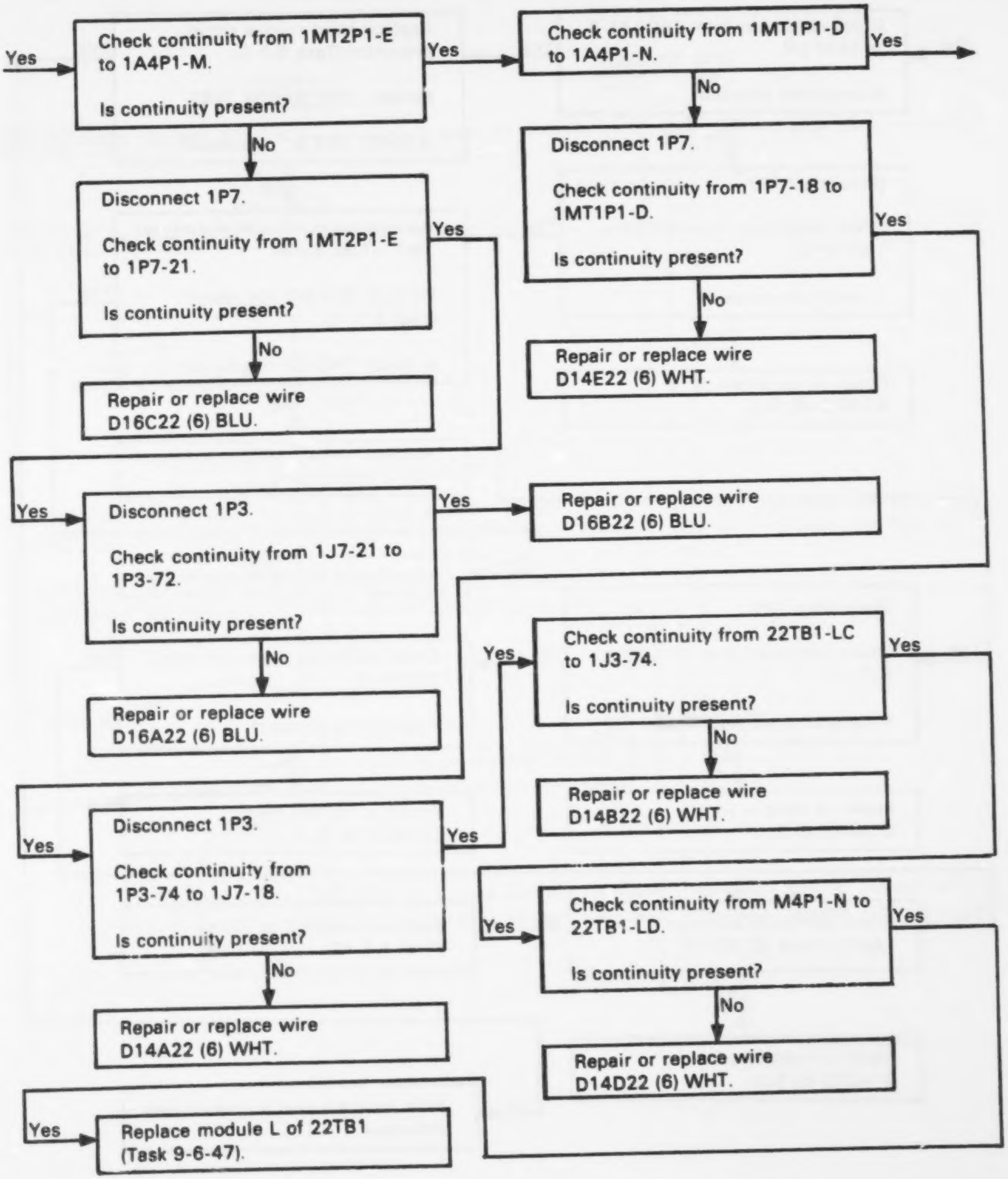
13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT)


Yes
Check continuity from 1MT1P1-B to airframe ground.
Is continuity present?
Yes
No
Disconnect 1MT2P1.
Check continuity 1MT2P1-A and load side of 1CB12.
Is continuity present?
Yes
No
Disconnect 1P7.
Check continuity from 1MT1P1-B to 1P7-11.
Is continuity present?
Yes
No
Repair or replace wire D15A22N (2).
Disconnect 1P7.
Check continuity from 1P7-14 to 1MT2P1-A.
Is continuity present?
Yes
No
Repair or replace wire D13D22 (2).
Yes
Repair or replace wire D15B22N.
Yes
Disconnect 1P3.
Check continuity from 1P3-20 to 1J7-14.
Is continuity present?
Yes
Repair or replace wire D13A22 (2).
No
Repair or replace wire D13B22 (2).
Yes
Yes
Disconnect 1P3.
Check continuity from 1P3-19 to 1J7-12.
Is continuity present?
Yes
Repair or replace wire D12A22 (2).
No
Repair or replace wire D12B22 (2).

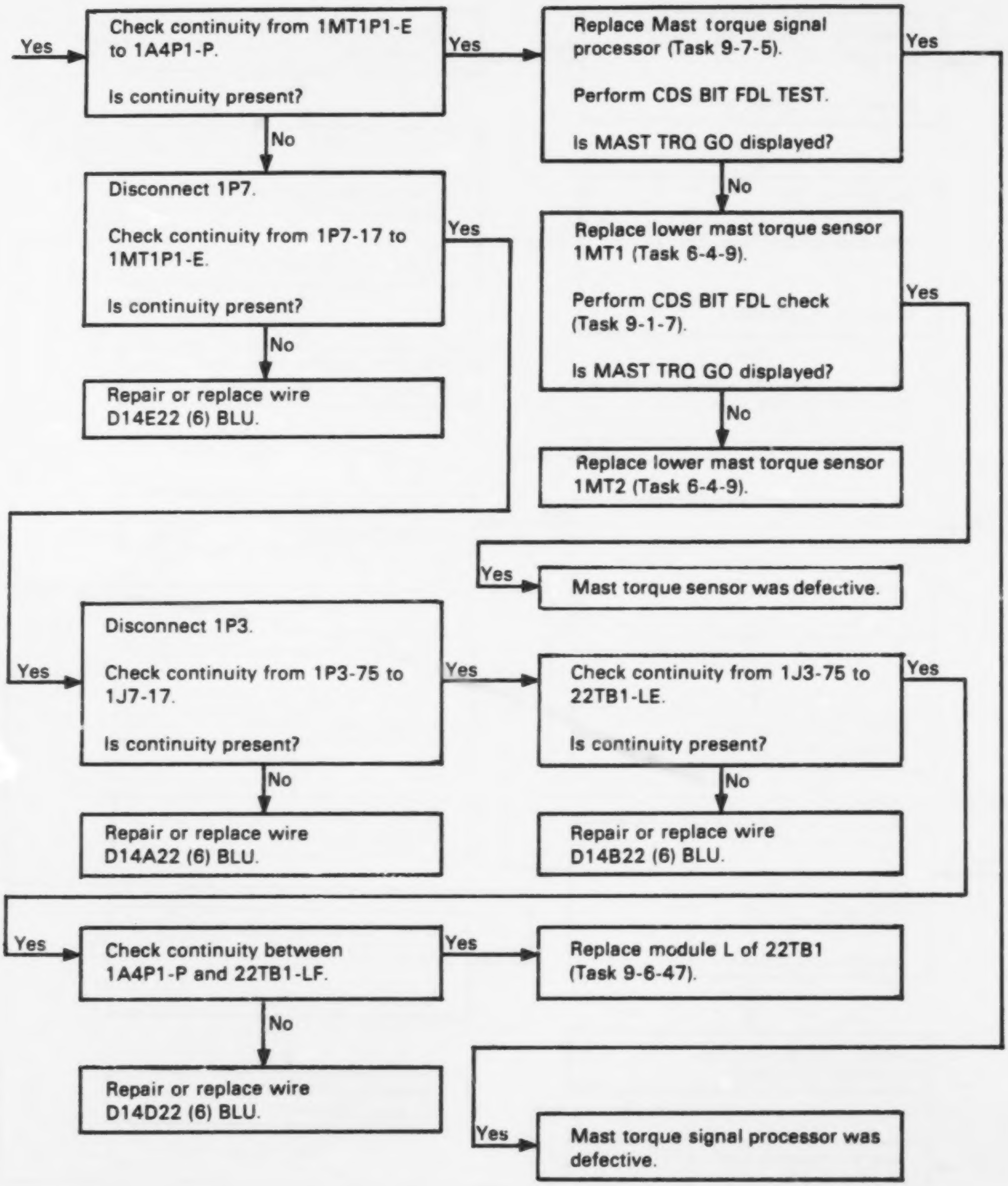
13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT)


Yes
Check continuity from 1MT2P1-B and airframe ground.
Is continuity present?
Yes
Disconnect 1A4P1.
Check continuity from 1A4P1-L to 1MT2P1-D.
Is continuity present?
Yes
No
Disconnect 1P7.
Check continuity from 1P7-13 to 1MT2P1-B.
Is continuity present?
Yes
No
Disconnect 1P7.
Check continuity from 1P7-22 to 1MT2P1-D.
Is continuity present?
Yes
No
Repair or replace wire D17A22N (2).
No
Repair or replace wire D16C22 (6) WHT.
Yes
Repair or replace wire D17B22N (2).
Yes
Disconnect 1P3.
Check continuity from 1P3-71 to 1J7-22.
Is continuity present?
Yes
Repair or replace wire D16B22 (6) WHT.
No
Repair or replace wire D16A22 (6) WHT.

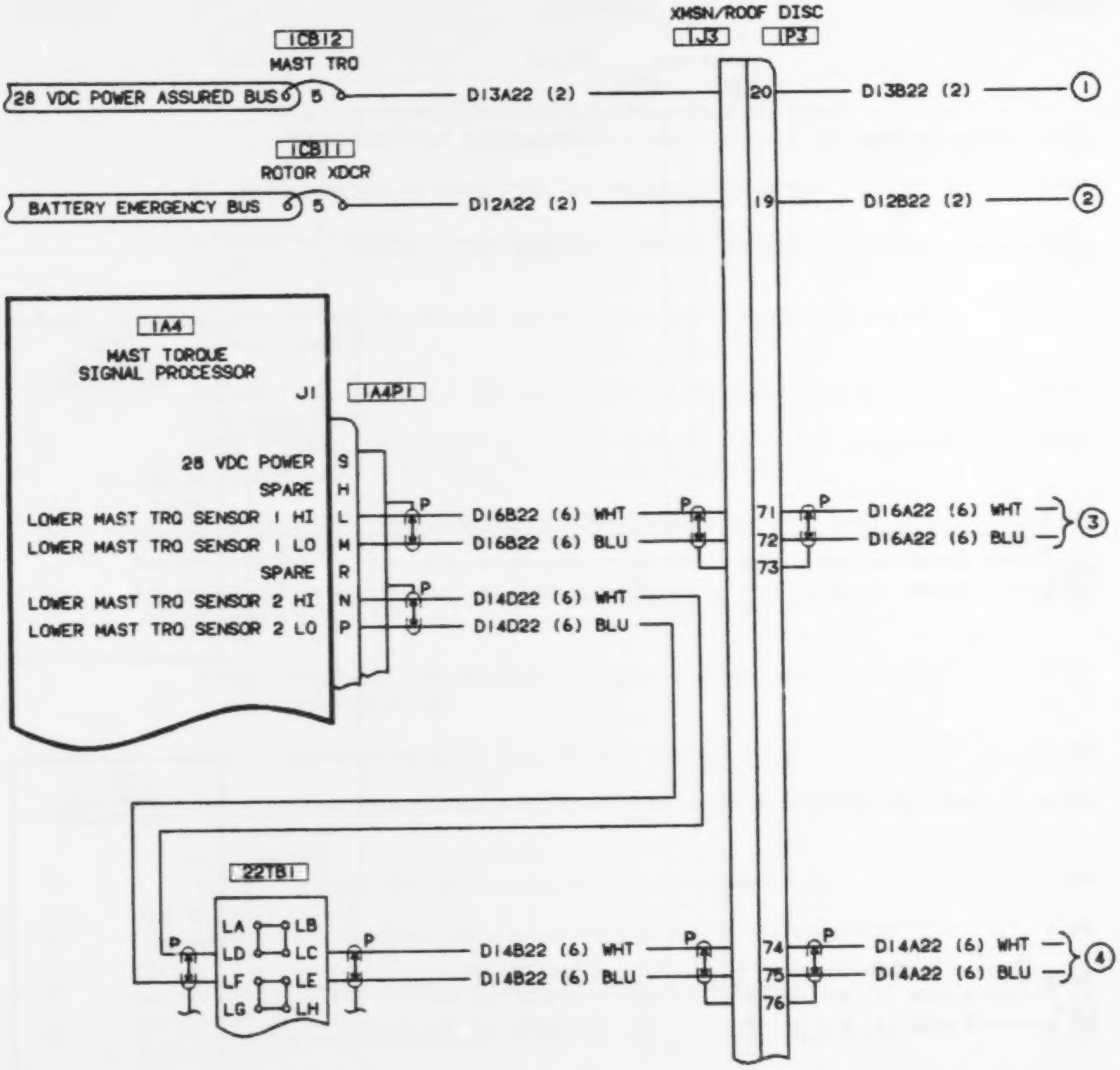
13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT)


Yes
Check continuity from 1MT2P1-E to 1A4P1-M.
Is continuity present?
Yes
Check continuity from 1MT1P1-D to 1A4P1-N.
Yes
No
No
Disconnect 1P7.
Check continuity from 1P7-18 to 1MT1P1-D.
Is continuity present?
Yes
Disconnect 1P7.
Check continuity from 1MT2P1-E to 1P7-21.
Is continuity present?
Yes
No
Repair or replace wire D14E22 (6) WHT.
No
Repair or replace wire D16C22 (6) BLU.
Yes
Disconnect 1P3.
Check continuity from 1J7-21 to 1P3-72.
Is continuity present?
Yes
Repair or replace wire D16B22 (6) BLU.
No
Repair or replace wire D16A22 (6) BLU.
Yes
Check continuity from 22TB1-LC to 1J3-74.
Is continuity present?
Yes
No
Repair or replace wire D14B22 (6) WHT.
Yes
Disconnect 1P3.
Check continuity from 1P3-74 to 1J7-18.
Is continuity present?
Yes
Yes
Check continuity from M4P1-N to 22TB1-LD.
Is continuity present?
Yes
No
Repair or replace wire D14A22 (6) WHT.
No
Repair or replace wire D14D22 (6) WHT.
Yes
Replace module L of 22TB1 (Task 9-6-47).

13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT)


Yes
Check continuity from 1MT1P1-E to 1A4P1-P.
Is continuity present?
Yes
Replace Mast torque signal processor (Task 9-7-5).
Perform CDS BIT FDL TEST.
Is MAST TRQ GO displayed?
Yes
No
Disconnect 1P7.
Check continuity from 1P7-17 to 1MT1P1-E.
Is continuity present?
Yes
No
Replace lower mast torque sensor 1MT1 (Task 6-4-9).
Perform CDS BIT FDL check (Task 9-1-7).
Is MAST TRQ GO displayed?
Yes
No
Repair or replace wire D14E22 (6) BLU.
No
Replace lower mast torque sensor 1MT2 (Task 6-4-9).
Yes
Mast torque sensor was defective.
Yes
Disconnect 1P3.
Check continuity from 1P3-75 to 1J7-17.
Is continuity present?
Yes
Check continuity from 1J3-75 to 22TB1-LE.
Is continuity present?
Yes
No
Repair or replace wire D14A22 (6) BLU.
No
Repair or replace wire D14B22 (6) BLU.
Yes
Check continuity between 1A4P1-P and 22TB1-LF.
Yes
Replace module L of 22TB1 (Task 9-6-47).
No
Repair or replace wire D14D22 (6) BLU.
Yes
Mast torque signal processor was defective.

13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT).


XMSN/ROOF DISC
1J3
1P3
1CB12
MAST TRQ
28 VDC POWER ASSURED BUS
5
D13A22 (2)
20
D13B22 (2)
①
1CB11
ROTOR XDCR
BATTERY EMERGENCY BUS
5
D12A22 (2)
19
D12B22 (2)
②
1A4
MAST TORQUE
SIGNAL PROCESSOR
J1
1A4P1
28 VDC POWER S
SPARE H
LOWER MAST TRQ SENSOR 1 HI L
LOWER MAST TRQ SENSOR 1 LO M
SPARE R
LOWER MAST TRQ SENSOR 2 HI N
LOWER MAST TRQ SENSOR 2 LO P
P
D16B22 (6) WHT
D16B22 (6) BLU
71
72
73
D16A22 (6) WHT
D16A22 (6) BLU
③
D14D22 (6) WHT
D14D22 (6) BLU
22TB1
LA
LB
LD
LC
LF
LE
LG
LH
D14B22 (6) WHT
D14B22 (6) BLU
74
75
76
D14A22 (6) WHT
D14A22 (6) BLU
④

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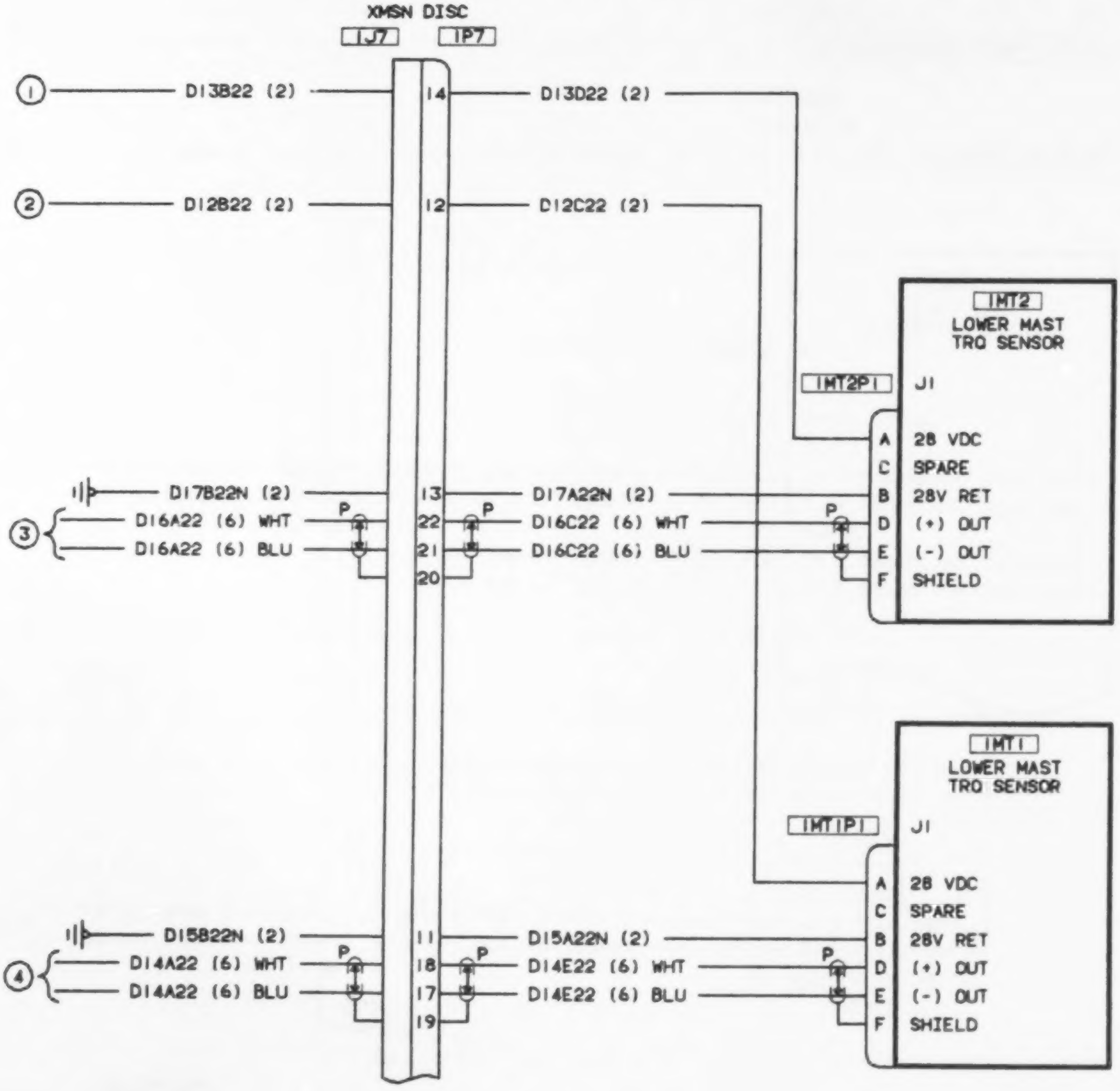
13. NR VERTICAL INDICATOR DOES NOT WORK PROPERLY AND MAST TORQUE INOP (CONT)


XMSN DISC
1J7
1P7
①
D13B22 (2)
14
D13D22 (2)
②
D12B22 (2)
12
D12C22 (2)
1MT2
LOWER MAST
TRQ SENSOR
1MT2P1
J1
A 28 VDC
C SPARE
B 28V RET
D (+) OUT
E (-) OUT
F SHIELD
D17B22N (2)
13
D17A22N (2)
③
D16A22 (6) WHT
D16A22 (6) BLU
P
22
21
20
D16C22 (6) WHT
D16C22 (6) BLU
1MT1
LOWER MAST
TRQ SENSOR
1MT1P1
J1
A 28 VDC
C SPARE
B 28V RET
D (+) OUT
E (-) OUT
F SHIELD
D15B22N (2)
11
D15A22N (2)
④
D14A22 (6) WHT
D14A22 (6) BLU
18
17
19
D14E22 (6) WHT
D14E22 (6) BLU

406475-235-2

Section IV. ELECTRICAL SYSTEM (CHAPTER 9)

NOTE

The task number referenced in the symptom is the related operational check in Chapter 9.

MAPS NUMBER	SYMPTOM	PAGE NUMBER
1.	AC generator comes on before rotor rpm reaches 93-96 percent. (Task 9-1-1)	K-70
2.	AC generator remains on when rotor rpm is between 88 and 91 percent. (Task 9-1-1)	K-71
3.	AC generator will not come on line when rotor rpm is between 93 and 96 percent (Task 9-1-1)	K-72
4.	AC GEN FAIL message not displayed on MFD (at flight idle). (Task 9-1-1)	K-83
5.	BATT PREHEAT ON not displayed on MFD (external ac power on and jumper between pins 1 and 3 of connector 2BT2P2). (Task 9-1-5)	K-84
6.	Advisory EXT PWR not displayed on MFD (external ac power in use). (Task 9-1-9)	K-85
7.	Advisory EXT PWR not displayed on MFD (external dc power in use). (Task 9-1-10)	K-86
8.	Advisory PITOT HEAT ON message not displayed on MFD with PITOT HEAT switch on. (Task 9-1-8)	K-87
9.	Avionics compartment blower does not operate. (Task 9-1-8)	K-89
10.	Avionics compartment blower not controlled by temperature sensing switches. (Task 9-1-8)	K-92
11.	Battery 1 preheat light not lit during press-to-test. (Task 9-1-4)	K-94
12.	Battery 1 preheat light is lit at temperature above -10°F. (Task 9-1-4)	K-95
13.	Battery 1 voltage not at connector 2BT1J2-15. (Task 9-1-4)	K-96
14.	MFD initial page time function is not counting up in time. (Task 9-1-6)	K-97
15.	Battery 2 preheat light is not lit in press-to-test. (Task 9-1-5)	K-98
16.	Battery 2 preheat light comes on at a temperature above -10°F. (Task 9-1-5)	K-100
17.	Battery 2 will not come on (BATT 2 switch is set to BATT 2). (Task 9-1-5)	K-101

MAPS NUMBER	SYMPTOM	PAGE NUMBER
18.	BATT PREHEAT ON not displayed on MFD (external power on and jumper between pins 1 and 3 of connector 2BT1P2). (Task 9-1-4)	K-105
19.	Battery voltage not found at 2BT2P2-15. (Task 9-1-5)	K-106
20.	MPD CPO circuit breaker does not turn on CPO MFD. (BATT 1 switch set to BATT 1). (Task 9-1-4)	K-107
21.	Left defog blower does not operate. (Task 9-1-8)	K-109
22.	Right defog blower does not operate (during BATTERY No. 1). (Task 9-1-8)	K-111
23.	CDS BIT provides NO GO error codes on MFD when checking MUX DATA BUS. (Task 9-1-13)	K-113
24.	DC GEN FAIL message not displayed on MFD (DC GEN switch set to OFF and engine rpm at 100%). (Task 9-1-14)	K-120
25.	External dc power does not come on. (Task 9-1-10)	K-121
26.	External dc power does not disconnect when dc generator is turned on. (Task 9-1-14)	K-126
27.	External ac power comes on, but no indication above ACV on MPD. (Task 9-1-10)	K-127
28.	External dc power comes on, but no indication above BATT V on MPD. (Task 9-1-10)	K-128
29.	External dc power on, but no voltage present on BATTERY EMERGENCY BUS. (Task 9-1-10)	K-130
30.	Generator not off line at 18 volts (engine rpm is being reduced). (Task 9-1-14)	K-132
31.	Generator will not trip off line with simulated feeder fault. (Task 9-1-14)	K-133
32.	Generator will not come on line (reset has been attempted). (Task 9-1-14)	K-135
33.	Heater solenoid valve will not close. (Task 9-1-8)	K-142
34.	Heater solenoid valve will not open. (Task 9-1-8)	K-145
35.	HOT BATT 1 caution message not displayed on MFD (external power and jumper between pins 1 and 2 of connector 2BT1P2). (Task 9-1-4)	K-149
36.	HOT BATT 1 & 2 message not displayed on MFD. (Task 9-1-5)	K-150
37.	HOT BATT 2 message not displayed on MFD. (Task 9-1-5)	K-151

MAPS NUMBER	SYMPTOM	PAGE NUMBER
38.	Keyboard has no response on OPERATOR CHECKS page during SWITCH CHECK. (Task 9-1-6)	K-152
39.	MMS UP advisory message is not displayed on MFD and MMS FAIL is displayed. (Task 9-1-12)	K-153
40.	MFD BIT page, CDS fault CODE 01 is displayed (right MCPU failed). (Task 9-1-6)	K-166
41.	MFD BIT page, CDS fault CODE 02 is displayed (left MCPU failed). (Task 9-1-6)	K-168
42.	MFD BIT page, CDS fault CODE 04 is displayed (keyboard unit failed) (Task 9-1-6)	K-170
43.	MFD BIT page, CDS fault CODE 10 is displayed (right MFD failed). (Task 9-1-6)	K-172
44.	MFD BIT page, CDS fault CODE 12 is displayed (left MFD failed). (Task 9-1-6)	K-174
45.	MFD CPO circuit breaker does not turn on CPO MFD (dc external power on). (Task 9-1-10)	K-175
46.	MFD (CPO) key has no response during SWITCH CHECK. (Task 9-1-6)	K-182
47.	MFD does not display initial page on power up, and image is not legible and clear. (Task 9-1-6)	K-184
48.	MFD initial page does not display MMS ON. (Task 9-1-12)	K-187
49.	MFD PLT circuit breaker will not stay closed. (Task 9-1-6)	K-191
50.	MFD test pattern display absent or incorrect. (Task 9-1-6)	K-194
51.	MFD SWITCH CHECK function cannot be disabled. (Task 9-1-6)	K-195
52.	MPD does not display battery 2 voltage (BATT 2 switch set to BATT 2). (Task 9-1-5)	K-196
53.	MPD does not display battery 1 voltage. (BATT 1 switch set to BATT 1). (Task 9-1-4)	K-198
54.	Pitch rate sensor failure CODE 21 is displayed on MFD. (Task 9-1-14)	K-200
55.	Pitot tube will not heat. (Task 9-1-8)	K-203
56.	RECT FAIL caution message not displayed on MFD (RECT circuit breaker open and ac and dc external power applied). (Task 9-1-15)	K-205
57.	RFD test pattern absent in DISPLAY CHECK. (Task 9-1-6)	K-208

MAPS NUMBER	SYMPTOM	PAGE NUMBER
58.	Right defog blower does not operate. (Task 9-1-8)	K-211
59.	Roll rate sensor failure CODE 22 is displayed on MFD. (Task 9-1-14)	K-213
60.	Starter voltage indication not present on MPD during start. (Task 9-1-14)	K-215
61.	Starter will not crank engine. (Task 9-1-14)	K-217
62.	Tone check test on MFD fails (MCPU L circuit breaker open) (Task 9-1-6)	K-224
63.	Tone check test on MFD fails (MCPU R circuit breaker open). (Task 9-1-6)	K-227
64.	Transformer-rectifier unit does not come on. (Task 9-1-15)	K-230
65.	Transformer-rectifier unit is on but no 24–30VDC indication above RECT V on MPD. (Task 9-1-15)	K-234
66.	Transformer-rectifier unit on (no percent load display on MPD). (Task 9-1-15)	K-237
67.	Vertical scale instrument test pattern incorrect during MFD DISPLAY CHECK. (Task 9-1-6)	K-239
68.	Voltage regulator control knob does not change BATT V indication on MPD. (Task 9-1-14)	K-242
69.	Yaw rate sensor failure CODE 24 is displayed on MFD. (Task 9-1-14)	K-243
70.	Battery 1 half voltage (approximately) not present at connector 2BT1J2-9. (Task 9-1-4)	K-246
71.	Battery 2 half voltage (approximately) not present at connector 2BT2J2-9. (Task 9-1-5)	K-247
72.	Battery 1 will not come on (BATT 1 switch is set to BATT 1). (Task 9-1-4)	K-248
73.	MFD (pilot) key has no response during SWITCH CHECK. (Task 9-1-6)	K-252
74.	MFD does not come on (Battery 1 or Battery 2 on). (Task 9-1-4 and 9-1-5)	K-254
75.	MFD CPO does not come on (BATT 2 switch set to BATT 2) (Task 9-1-5)	K-258
76.	MPD does not indicate 115 and particle separator does not operate (ac external power on). (Task 9-1-9)	K-259
77.	Starter-generator percent load does not appear on MPD. (Task 9-1-14)	K-268
78.	DC generator does not go off line (RPM below flight idle). (Task 9-1-14)	K-269
79.	Battery voltage does not increase at 2K2-A1 or 2K2-A2 (during charger-monitor operational check). (Task 9-1-3)	K-270

MAPS NUMBER	SYMPTOM	PAGE NUMBER
80.	Battery 1 will not stay connected to battery-generator bus at flight idle (during charger-monitor operational check). (Task 9-1-3)	K-271
81.	Battery 2 will not stay connected to battery-generator bus at flight idle (during charger-monitor operational check). (Task 9-1-3)	K-274
82.	Battery 1 or Battery 2 does not disconnect from battery-generator bus at flight idle (during charger-monitor operational check). (Task 9-1-3)	K-278
83.	BATT CHGR FAIL message does not appear on MFD (jumper wire between 2PS2P2-K and airframe, dc external power applied). (Task 9-1-3)	K-284

MAPS NUMBER	SYMPTOM	PAGE NUMBER
84.	Charger-Monitor does not open opposite battery relay (with other battery relay closed and its battery connected to battery-generator bus at flight idle). (Task 9-1-3)	K-285
85.	CPO night vision goggles (NVG) do not come on when NVG power converter switch is set to ON. Helicopter serial numbers 43006 through 43065 with NVG power converter P/N 5002614 installed. (Task 9-1-16)	K-289
85.1	CPO night vision goggles (NVG) do not come on when NVG power converter switch is set to ON. Helicopter serial numbers 43006 and subsequent with NVG power converter P/N 402-100-002 installed. (Task 9-1-16)	K-290.1
86.	Pilot night vision goggles (NVG) do not come on when NVG power converter switch is set to ON. Helicopter serial numbers 43006 through 43065 with NVG power converter P/N 5002614 installed. (Task 9-1-16)	K-291
86.1	Pilot night vision goggles (NVG) do not come on when NVG power converter switch is set to ON. Helicopter serial numbers 43006 and subsequent with NVG power converter P/N 402-100-002 installed. (Task 9-1-16)	K-292.1
87.	TAMS circuit breaker will not stay closed. (Task 9-1-17)	K-293
88.	TAMS NO GO appears on MFD. (Task 9-1-17)	K-294
89.	Caution message HIGH TEMP T/R GRBX does not come on when tail rotor temperature switch is grounded. (Task 9-1-18)	K-295
90.	Caution message CHIP T/R GRBX does not come on (connector 1E3P1 is connected to special test tool and test switch set ON). (Task 9-1-18)	K-296
91.	Tail rotor gearbox chip detector fuzz burner failure-special test tool LED does not flash when test switch is set to ON. (Task 9-1-18)	K-298
92.	Caution message CHIP XMSN UPPER does not come on (connector 1E2P1 connected to special test tool and switch set to ON). (Task 9-1-18)	K-309
93.	Mast bearing chip detector fuzz burner failure-special test tool LED does not flash when test switch is set to ON. (Task 9-1-18)	K-312
94.	Caution message CHIP XMSN SUMP does not come on (connector 1E1P1 connected to special tool and switch set to ON). (Task 9-1-18)	K-324
95.	Transmission sump chip detector fuzz burner failure-special test tool LED does not flash when test switch is set to ON. (Task 9-1-18)	K-326
96.	Caution message CHIP ENG FREEWHEEL does not come on (connector 1E4P1 connected to special test tool and test switch set to ON). (Task 9-1-18)	K-338

MAPS NUMBER	SYMPTOM	PAGE NUMBER
97.	Freewheeling unit chip detector fuzz burner failure — special test tool LED does not flash when test switch is set to ON. (Task 9-1-18)	K-340
98.	Caution message LOW OIL PRESS XMSN does not come on when external dc power is applied. (Task 9-1-18)	K-351
99.	Caution message LOW OIL PRESS XMSN will not go out with helicopter at flight idle and dc generator on. (Task 9-1-18)	K-352
100.	Warning message LOW RPM does not go out with helicopter at 100% RPM. (Task 9-1-18)	K-354
101.	Warning message HIGH RPM does not come on, or it comes on at wrong rpm. (Task 9-1-18)	K-355
102.	Warning message HIGH RPM does not go out when rotor RPM is reduced to 100%. (Task 9-1-18)	K-356
103.	Warning message LOW RPM does not come on when rotor RPM is reduced to 97% or it comes on at other RPM. (Task 9-1-18)	K-357
104.	Engine anti-ice valve does not open (no rise in TGT) when ENG ANTI-ICE switch is set to ENG ANTI-ICE and helicopter at idle rpm. (Task 9-1-19)	K-358
105.	Advisory message ENG ANTI-ICE ON is not lit (helicopter at idle and ENG ANTI-ICE switch is set to OFF). (Task 9-1-19)	K-360
106.	Anti-ice switch solenoid valve does not close (no reduction in TGT). (Helicopter at idle, ENG ANTI-ICE switch set to OFF). (Task 9-1-19)	K-362
107.	Caution message CHIP ENG UPPER does not come on (engine upper chip detector connector connected to special test tool and test switch set to ON) (Task 9-1-19)	K-365
108.	Caution message CHIP ENG LOWER does not come on (engine lower chip detector connector connected to special test tool and test switch set to ON). (Task 9-1-19)	K-367
109.	Caution message LOW OIL QUANTITY ENG does not come on when terminal 1TB1-1 is grounded. (Task 9-1-19)	K-369
110.	Caution message OIL BYPASS ENG does not come on (1TB1-1 jumpered to ground and ENG OIL BYPASS switch set to AUTO). (Task 9-1-19)	K-371
111.	Engine oil bypass valve will not go to bypass position (1TB1-1 temporarily jumpered to ground and ENG OIL BYPASS switch set to AUTO). (Task 9-1-19)	K-372
112.	Oil level switch does not close. (Task 9-1-19)	K-375
113.	Oil level switch does not open. (Task 9-1-19)	K-376

MAPS NUMBER	SYMPTOM	PAGE NUMBER
114.	Caution message FUEL FILTER BYPASS does not come on (jumper between pins B and C of 1S3P1). (Task 9-1-19)	K-377
115.	Fuel boost pump does not operate (FUEL BOOST switch set to FUEL BOOST). (Task 9-1-19)	K-379
116.	Caution message FUEL BOOST FAIL comes on (fuel boost pump on and operating). (Task 9-1-19)	K-382
117.	Caution message FUEL BOOST FAIL does not come on (jumper wire connected between 1S4P1-A and 1S4P1-B and FUEL BOOST switch ON). (Task 9-1-19)	K-384
118.	Fuel boost pump does ot operate when START SWITCH and KEYLOCK SWITCH are ON (FUEL BOOST SWITCH is in OFF position). (Task 9-1-19)	K-386
119.	Engine igniter does not fire. (Task 9-1-19)	K-388
120.	Start counter does not increase count (START switch ON, IGN and START circuit breakers closed). (Task 9-1-19)	K-391
121.	Particle separator blower does not operate (ac external power is on). (Task 9-1-19)	K-392
122.	Particle separator blower operates backward. (Task 9-1-19)	K-395
123.	Fuel quantity indicator not correct. (Task 9-1-19)	K-396
124.	Fuel quantity readout on MFD disagrees with fuel quantity readout on vertical scale instrument. (Task 9-1-19)	K-400
125.	Caution message FUEL LOW does not come on at 100 pounds remaining fuel. (Task 9-1-19)	K-401
126.	Caution message LOW OIL PRESS ENG remains on (helicopter stabilized at flight idle and dc generator on). (Task 9-1-19)	K-403
127.	Warning message ENGINE OUT remains on (helicopter stabilized at flight idle and dc generator on). (Task 9-1-19)	K-407
128.	Engine NP RPM indicator (vertical scale) does not indicate approximately 62% (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-409
129.	Rotor NR RPM indicator (vertical scale) does not indicate approximately 64% (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-412
130.	Engine oil temperature indicator does not indicate in green range (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-417
131.	Engine oil pressure indicator on MPD does not indicate in green range (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-420

MAPS NUMBER	SYMPTOM	PAGE NUMBER
132.	Engine TGT indicator does not indicate in green range (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-423
133.	Engine NP RPM indicator (digital) on MPD does not indicate approximately 62% (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-426
134.	Engine NG RPM indicator (digital) on MPD does not indicate approximately 64% (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-429
135.	Engine torque indicator (digital) on MPD does not indicate approximately 8% (helicopter at flight idle and dc generator on). (Task 9-1-19)	K-432
136.	Engine NP RPM indicator (vertical scale) does not indicate approximately 100% (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-435
137.	Engine NG RPM indicator (vertical scale) does not indicate approximately 80% (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-438
138.	Engine oil temperature indicator does not indicate in green range (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-441
139.	Engine oil pressure indicator on MPD does not indicate in green range (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-444
140.	Engine TGT indicator does not indicate in green range (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-447
141.	Engine NP RPM indicator (digital) on MPD does not indicate approximately 100% (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-450
142.	Engine NG RPM indicator (digital) on MPD does ot indicate approximately 85% (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-453
143.	Engine torque indicator (digital) on MPD does not indicate approximately 24% (helicopter at 100% RPM and dc generator on). (Task 9-1-19)	K-456
144.	RPM switch does not increase and/or decrease engine rpm. (Task 9-1-19)	K-459
145.	Fuel control does not switch to analog backup. (Task 9-1-19)	K-461
146.	DIGITAL test switch does not cause engine deceleration when pressed. (Task 9-1-19)	K-464
147.	ANALOG test switch does not cause engine deceleration when pressed. (Task 9-1-19)	K-466
148.	BIT page does not display GO, NO GO, or FUEL CONTROL advisory after DIGITAL test switch is pressed. (Task 9-1-19)	K-468
149.	Caution message FUEL CONTROL does not come on (connector 1A3P1 disconnected). (Task 9-1-19)	K-472

MAPS NUMBER	SYMPTOM	PAGE NUMBER
150.	Green floodlight does not come on. (Task 9-1-20)	K-474
151.	Green and white FLOOD LT control is reversed when turned from DIM to BRT. (Task 9-1-20)	K-477
152.	Green floodlight does not go off when FLOOD LT switch is set to WHITE. (Task 9-1-20)	K-478
153.	White floodlight does not come on when FLOOD LT switch is set to WHT. (Task 9-1-20)	K-479
154.	Utility light does not come on when momentary switch on back of light is pressed. (Task 9-1-21)	K-480
155.	Utility light brightness cannot be controlled with rheostat at rear of lamp. (Task 9-1-21)	K-482
156.	Utility light will not focus from spot to flood when turning front of light assembly. (Task 9-1-21)	K-483
157.	Instrument lights do not come on when INST LT control is turned clockwise from OFF to BRT. (Task 9-1-22)	K-484
158.	Standby attitude indicator not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-487
159.	Airspeed indicator not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-489
160.	Clock is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-490
161.	Standby compass is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-491
162.	CPO channel select panel is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-492
163.	CPO multifunction display (MFD) auxiliary switch panel is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-493
164.	Pilot multifunction display (MFD) auxiliary switch panel not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-494
165.	Mast mounted sight (MMS) control panel not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-495
166.	Standby altimeter indicator not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-497

MAPS NUMBER	SYMPTOM	PAGE NUMBER
167.	CPO intercommunication system (ICS) panel is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-23)	K-498
168.	TGT/TRQ indicator not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-499
169.	Dual tachometer is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-500
170.	Left multifunction display (MFD) not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-501
171.	Remote frequency display (RFD) is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-502
172.	Right multifunction display (MFD) is not lit after INST LT control is turned from OFF to BRT. (Task 9-1-22)	K-503
173.	Instrument lights secondary dimming potentiometer does not control TGT/TRQ indication. (Task 9-1-22)	K-504
174.	Instrument lights secondary dimming potentiometer causes dimming for CW rotation. (Task 9-1-22)	K-505
175.	Panel lights do not come on when CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-506
176.	Keyboard not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-509
177.	Pilot intercommunication system (ICS) panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-510
178.	Digital fuel control panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-511
179.	Radar warning panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-513
180.	Directional gyro control panel is not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-515
181.	Forward overhead console panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-516
182.	AFT overhead console panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-517
183.	Center post circuit breaker panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-518

MAPS NUMBER	SYMPTOM	PAGE NUMBER
184.	Multiparameter display (MPD) not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-519
185.	Stability and control augmentation system (SCAS) control panel not lit after CONSOLE LT control is turned from OFF to BRT. (Task 9-1-23)	K-520
186.	Engine oil bypass relay not actuated (no voltage on 1TB1-3) (1TB1-1 jumpered to ground and ENG OIL BYPASS switch set to AUTO). (Task 9-1-19)	K-521
187.	Position lights do not come on (LIGHT POS switch set to DIM). (Task 9-1-24)	K-523
188.	Console dimming control causes panels to dim when shaft is turned clockwise. (Task 9-1-23)	K-525
189.	Position lights do not get bright when switched from DIM to BRT. (Task 9-1-24)	K-526
190.	Anticollision lights do not flash (ANTI COLL switch in ANTI COLL). (Task 9-1-25)	K-527
191.	Upper anticollision light does not flash (ANTI COLL switch in ANTI COLL). (Task 9-1-25)	K-529
192.	Lower anticollision light does not flash (ANTI COLL switch in ANTI COLL). (Task 9-1-25)	K-531
193.	Searchlight will not extend (searchlight position switch held in EXT position). (Task 9-1-26)	K-533
194.	Searchlight does not extend to 120 degrees. (Task 9-1-26)	K-535
195.	Searchlight will not retract (searchlight position switch held in RET position). (Task 9-1-26)	K-536
196.	Searchlight will not turn right (searchlight position switch held in R position). (Task 9-1-26)	K-538
197.	Searchlight will not turn left (searchlight position switch held in L position). (Task 9-1-26)	K-540
198.	Searchlight does not come on (searchlight power switch is ON). (Task 9-1-26)	K-542
199.	Searchlight does not go off at approximately 90 degrees right from forward (searchlight power switch is ON, searchlight position switch held in R). (Task 9-1-26)	K-546
200.	Searchlight does not go off at approximately 90 degrees left from forward (searchlight power switch is ON, searchlight position switch held in L). (Task 9-1-26)	K-547

MAPS NUMBER	SYMPTOM	PAGE NUMBER
201.	Searchlight does not come on at approximately 60 degrees extension (searchlight power switch is ON, searchlight position switch held in EXT). (Task 9-1-26)	K-548
202.	Searchlight does not stow properly (searchlight position switch held in RET). (Task 9-1-26)	K-549
203.	Instrument lights secondary dimming potentiometer does not control dual tachometer. (Task 9-1-22)	K-550
204.	Instrument lights secondary dimming potentiometer does not control CPO communication system control. (Task 2-1-22)	K-551
205.	Instrument lights secondary dimming potentiometer does not control left multifunction display (MFD). (Task 9-1-22)	K-552
206.	Instrument lights secondary dimming potentiometer does not control right multifunction display (MFD). (Task 9-1-22)	K-553
207.	Instrument lights secondary dimming potentiometer does not control remote frequency display (RFD). (Task 9-1-22)	K-554
208.	Instrument lights secondary dimming potentiometer does not control the CPO channel select panel. (Task 9-1-22)	K-555
209.	Instrument lights secondary dimming potentiometer does not control the CPO multifunction display (MFD) auxiliary switch panel. (Task 9-1-22)	K-556
210.	Instrument lights secondary dimming potentiometer does not control the pilot multifunction display (MFD) auxiliary switch panel. (Task 9-1-22)	K-557
211.	Instrument lights secondary dimming potentiometer does not control the mast mounted sight (MMS) control. (Task 9-1-22)	K-558
212.	Error code 0001 word 1 MCPU fail.	K-559
213.	Error code 0002 word 1 MCPU fail.	K-560
214.	Error code 0040 word 1 yaw actuator fail.	K-562
215.	Error code 0080 word 1 right cyclic actuator fail.	K-577
216.	Error code 0010 word 1 left cyclic actuator fail.	K-594
217.	Error code 0200 word 1 pitch rate gyro failure.	K-608
218.	Error code 0040 word 1 roll rate gyro failure.	K-612
219.	Error code 0800 word 1 yaw rate gyro failure.	K-616
220.	Error code 1000 word 1 forward/aft cyclic control motion transducer failure.	K-623

MAPS NUMBER	SYMPTOM	PAGE NUMBER
221.	Error code 2000 word 1 lateral cyclic control motion transducer failure.	K-629
222.	Error code 4000 word 1 pedal control motion transducer failure.	K-635
223.	Error code 8000 word 1 collective motion transducer failure.	K-644
224.	Error code 0008 word 2 trim motor failure.	K-653
225.	Error code 0010 word 2 26 VAC failure.	K-667
226.	Pitch/roll and yaw will not engage.	K-682
227.	Pitch/roll and one yaw will not engage.	K-697
228.	Pitch and roll (only) will not engage.	K-704
229.	Yaw only will not engage.	K-709
230.	FDL MENU page will not appear. (Task 9-1-7)	K-716
231.	Engine droops during increase in collective. (TM 55-1520-248-10)	K-718
232.	Chadwick rotor balancing equipment inoperative. (Task 9-1-11)	K-720
233.	Auxiliary 28 VDC receptacle will not supply voltage. (Task 9-1-11)	K-724
234.	Transmission oil caution message on MFD and TRANS OIL °CX10 (MPD) reads above limit. (Task 9-1-18)	K-726
235.	FDL MENU page appears in flight. (Task 9-1-27)	K-728
236.	Transmission oil temperature does not indicate in green range (helicopter at flight idle and dc generator on). (Task 9-1-18)	K-730
237.	INV FAIL message displayed on MFD. 115 not displayed on MPD. (Task 9-1-2)	K-733

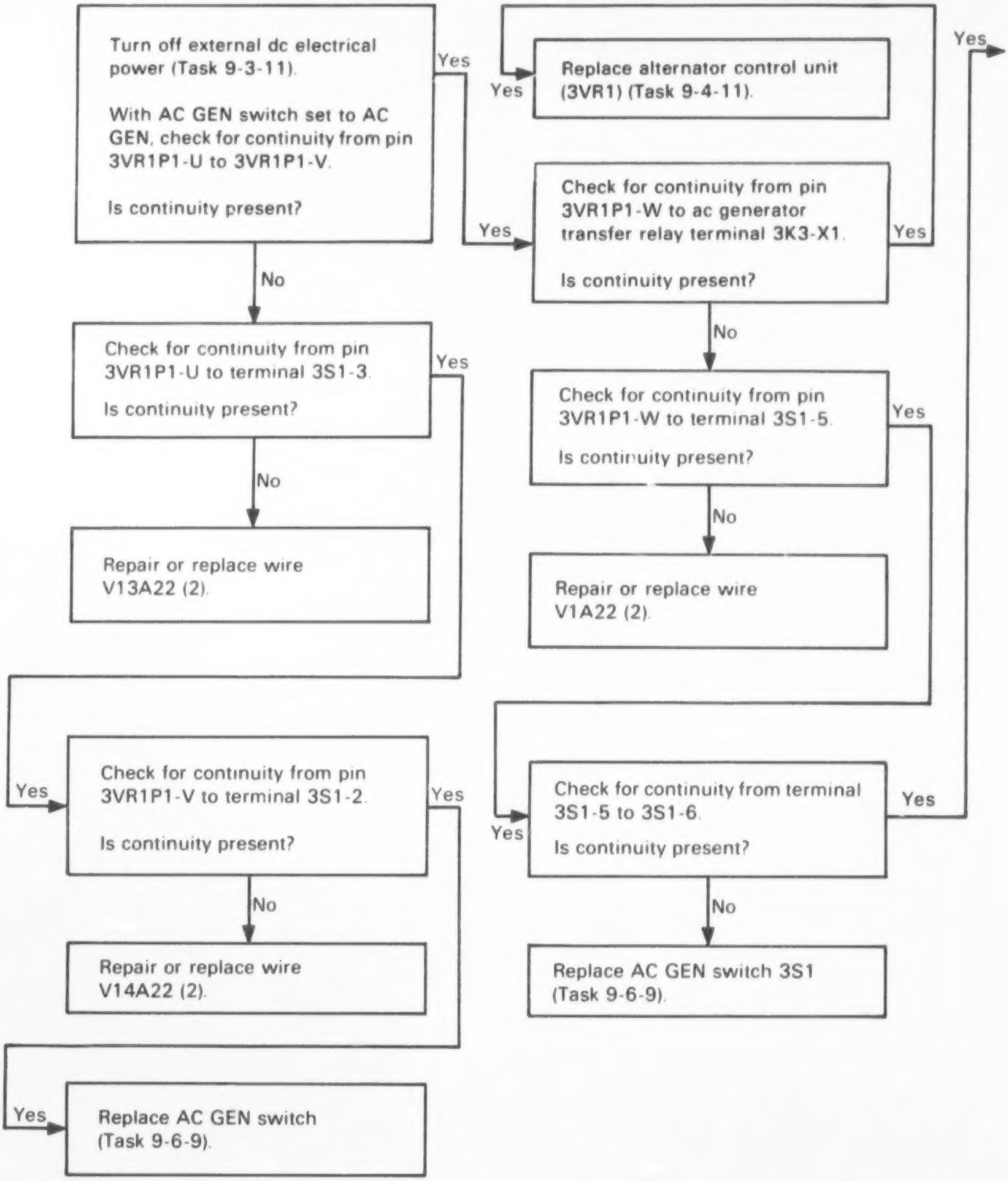
1. AC GENERATOR COMES ON BEFORE ROTOR RPM REACHES 93 TO 96 PERCENT

Replace alternator control unit (Task 9-4-11).

2. AC GENERATOR REMAINS ON WHEN ROTOR RPM IS BETWEEN 88 AND 91 PERCENT

Replace alternator control unit (Task 9-4-11).

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT



Turn off external dc electrical power (Task 9-3-11).

With AC GEN switch set to AC GEN, check for continuity from pin 3VR1P1-U to 3VR1P1-V.

Is continuity present?

Check for continuity from pin 3VR1P1-U to terminal 3S1-3.

Is continuity present?

Repair or replace wire V13A22 (2).

Check for continuity from pin 3VR1P1-V to terminal 3S1-2.

Is continuity present?

Repair or replace wire V14A22 (2).

Replace AC GEN switch (Task 9-6-9).

Replace alternator control unit (3VR1) (Task 9-4-11).

Check for continuity from pin 3VR1P1-W to ac generator transfer relay terminal 3K3-X1.

Is continuity present?

Check for continuity from pin 3VR1P1-W to terminal 3S1-5.

Is continuity present?

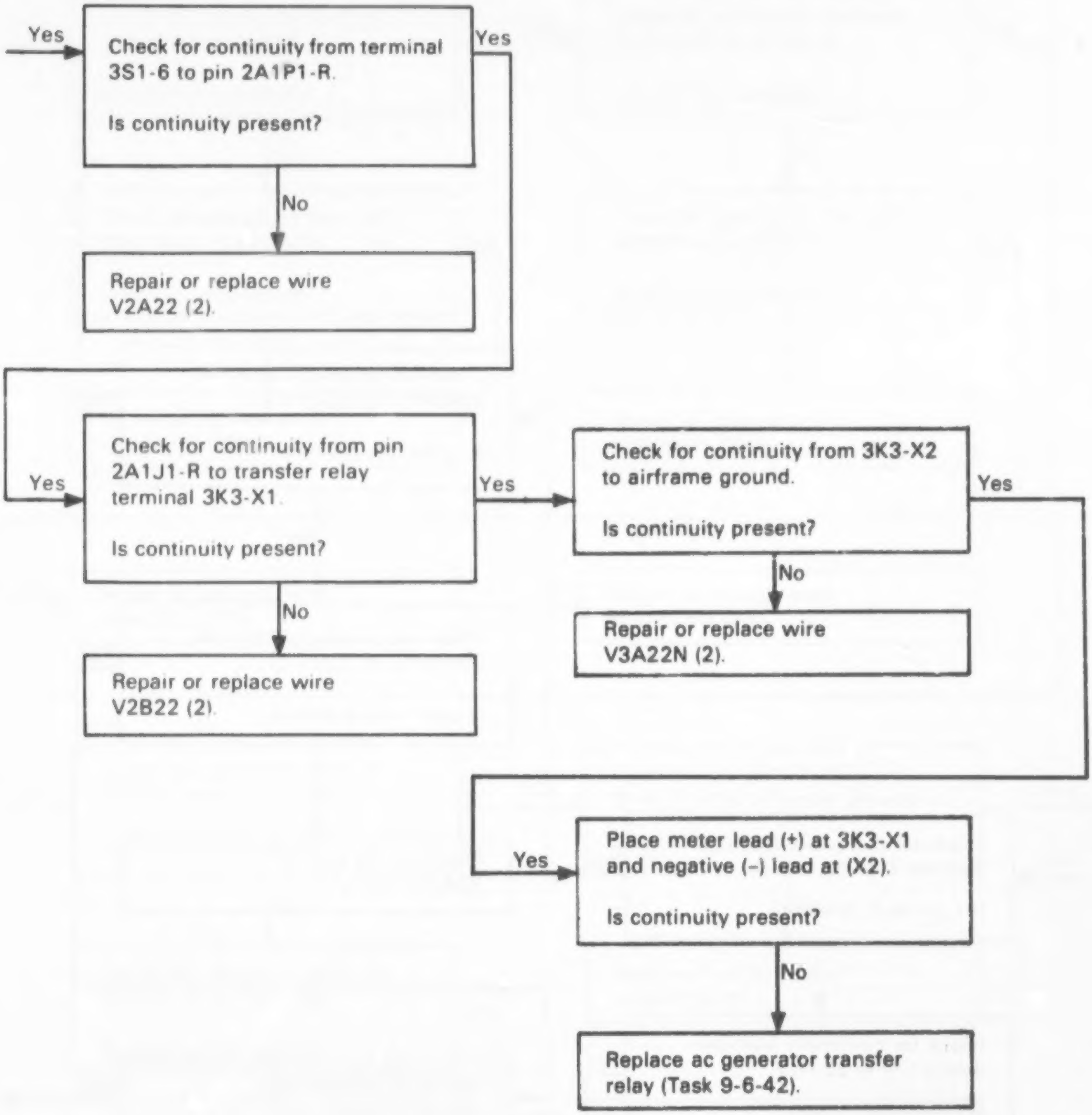
Repair or replace wire V1A22 (2).

Check for continuity from terminal 3S1-5 to 3S1-6.

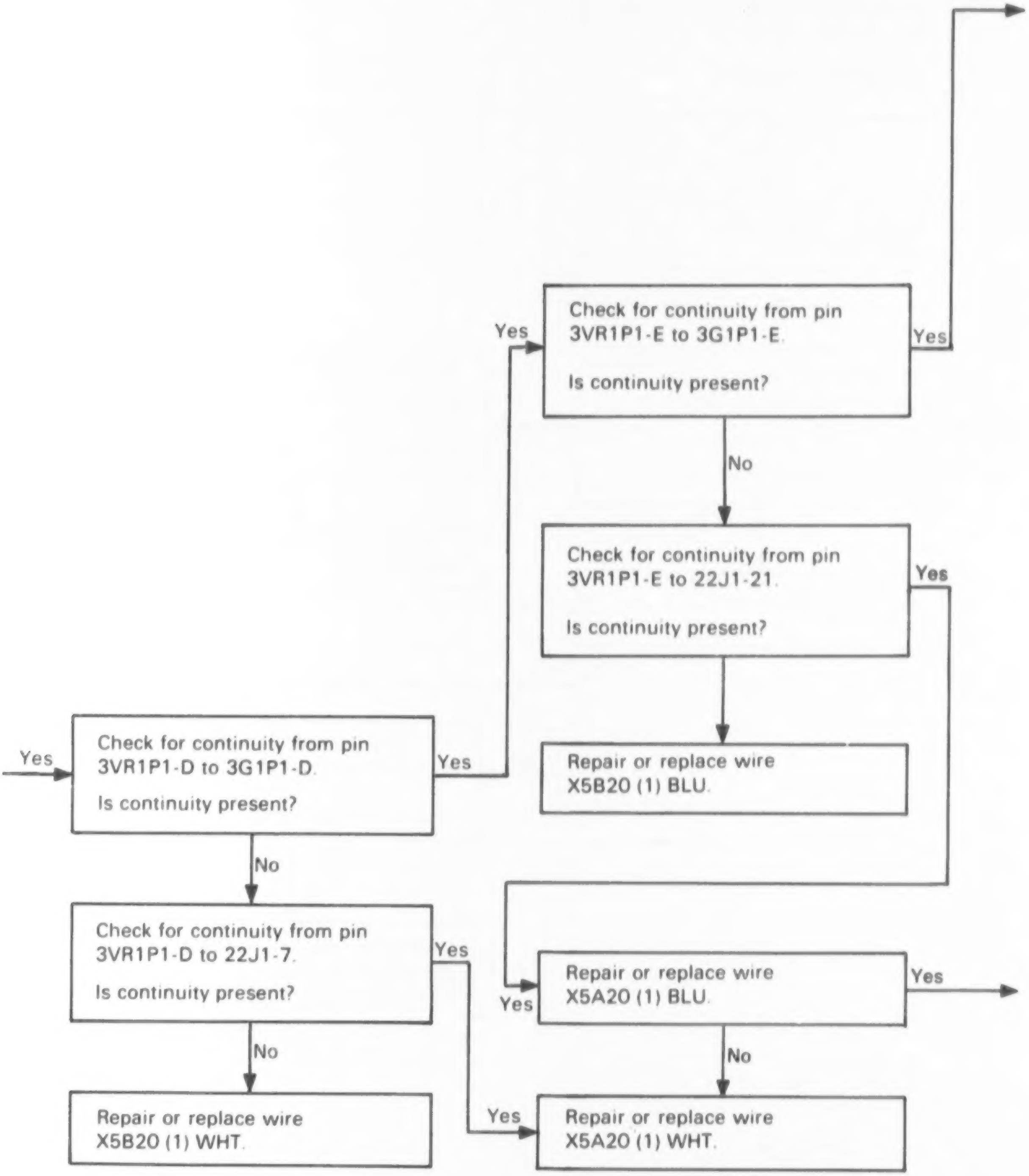
Is continuity present?

Replace AC GEN switch 3S1 (Task 9-6-9).

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from terminal 3S1-6 to pin 2A1P1-R.
Is continuity present?
Yes
No
Repair or replace wire V2A22 (2).
Yes
Check for continuity from pin 2A1J1-R to transfer relay terminal 3K3-X1.
Is continuity present?
Yes
Check for continuity from 3K3-X2 to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire V3A22N (2).
No
Repair or replace wire V2B22 (2).
Yes
Place meter lead (+) at 3K3-X1 and negative (-) lead at (X2).
Is continuity present?
No
Replace ac generator transfer relay (Task 9-6-42).

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)



Check for continuity from pin 3VR1P1-D to 3G1P1-D. Is continuity present?

Check for continuity from pin 3VR1P1-D to 22J1-7. Is continuity present?

Repair or replace wire X5B20 (1) WHT.

Check for continuity from pin 3VR1P1-E to 3G1P1-E. Is continuity present?

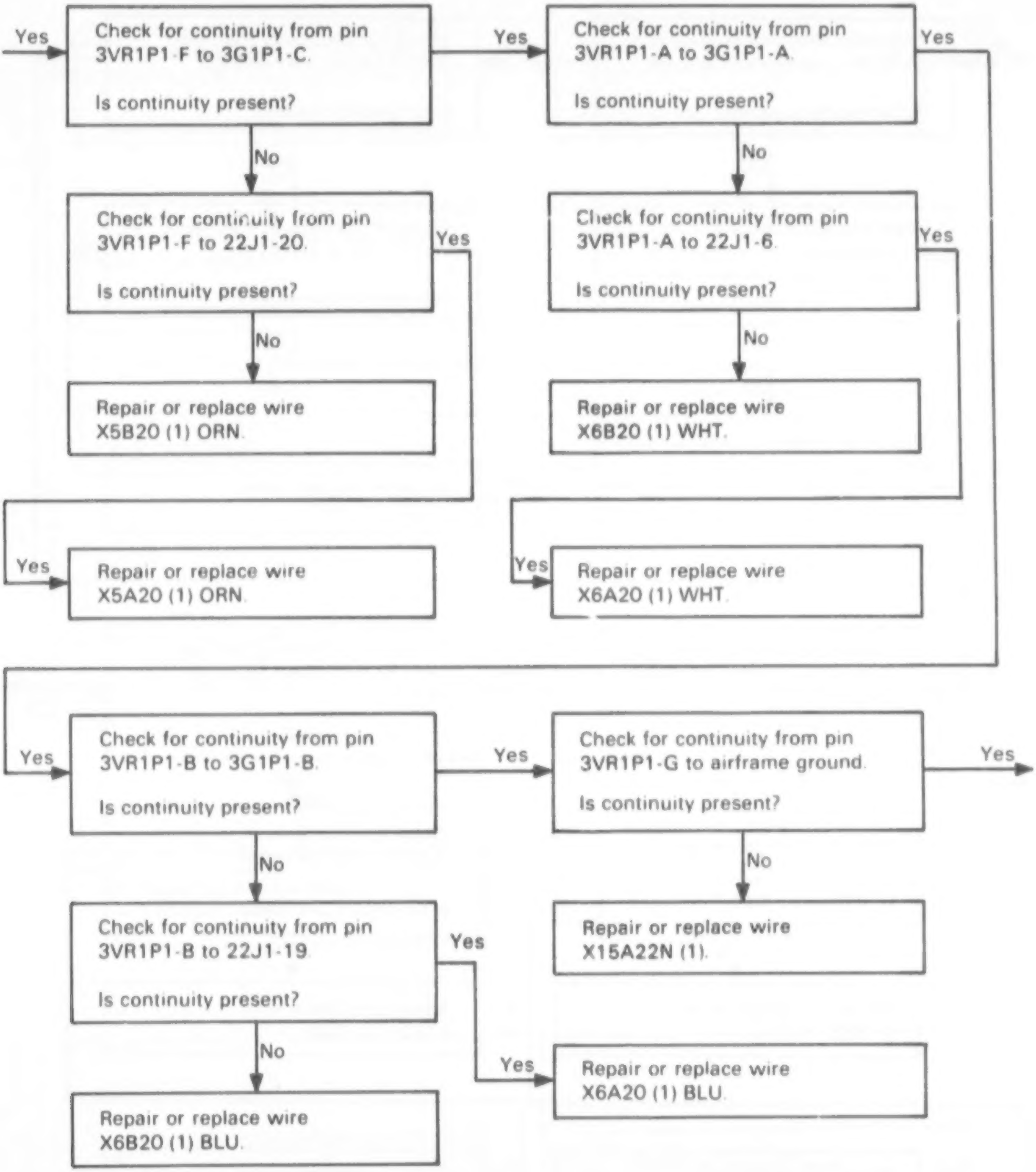
Check for continuity from pin 3VR1P1-E to 22J1-21. Is continuity present?

Repair or replace wire X5B20 (1) BLU.

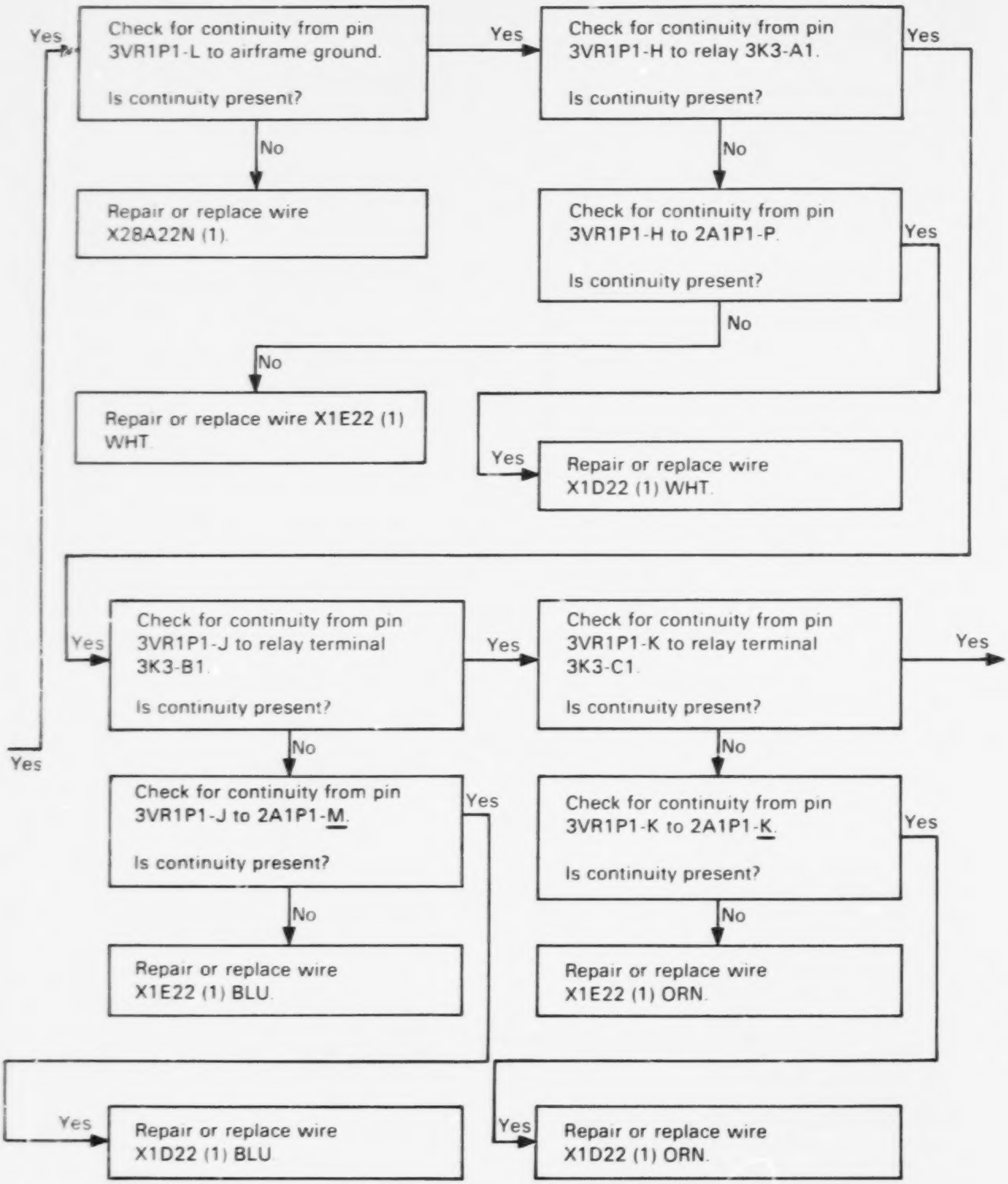
Repair or replace wire X5A20 (1) BLU.

Repair or replace wire X5A20 (1) WHT.

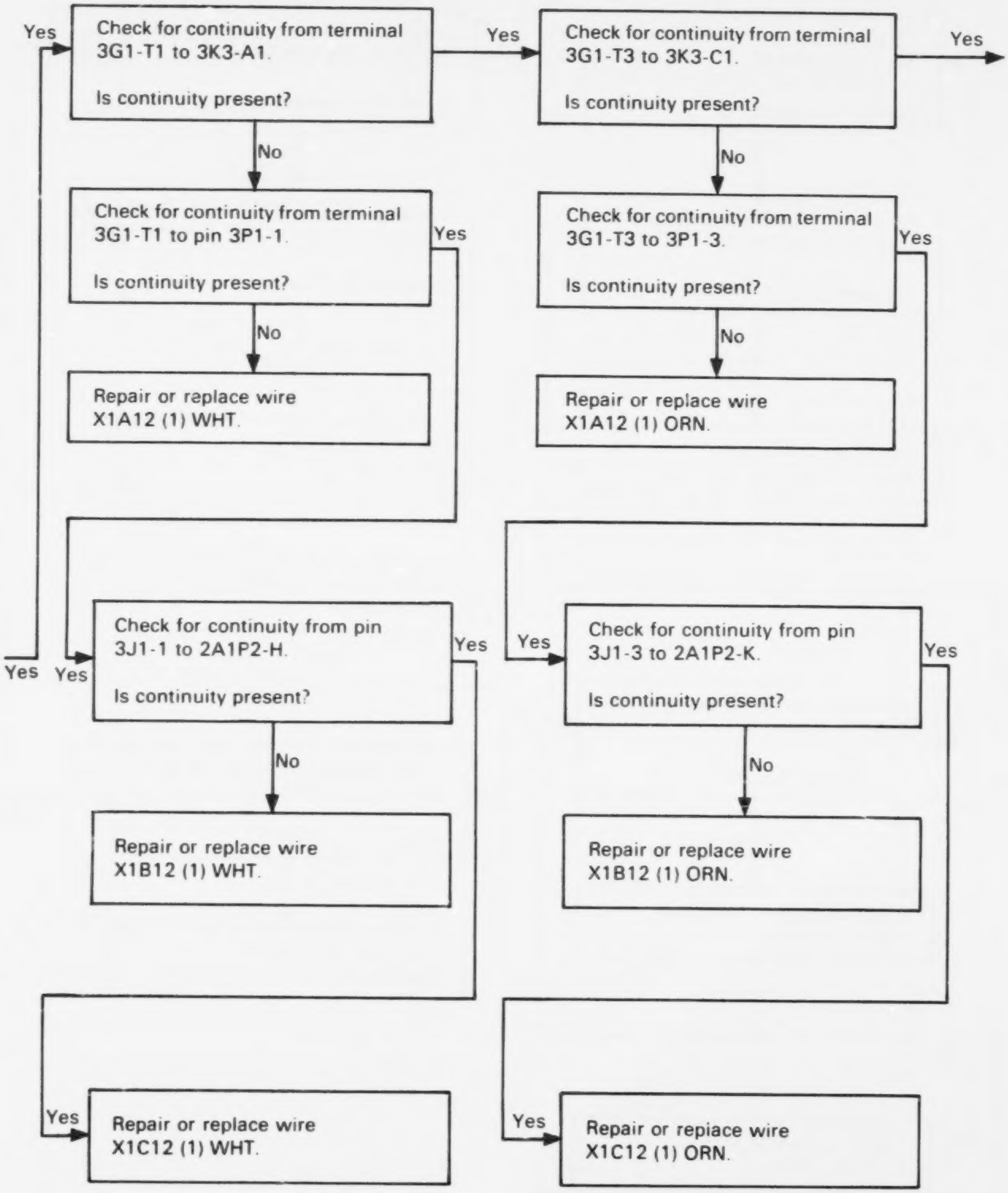
3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from pin 3VR1P1-F to 3G1P1-C.
Is continuity present?
Yes
Check for continuity from pin 3VR1P1-A to 3G1P1-A.
Is continuity present?
Yes
No
No
Check for continuity from pin 3VR1P1-F to 22J1-20.
Is continuity present?
Yes
Check for continuity from pin 3VR1P1-A to 22J1-6.
Is continuity present?
Yes
No
No
Repair or replace wire X5B20 (1) ORN.
Repair or replace wire X6B20 (1) WHT.
Yes
Repair or replace wire X5A20 (1) ORN.
Yes
Repair or replace wire X6A20 (1) WHT.
Yes
Check for continuity from pin 3VR1P1-B to 3G1P1-B.
Is continuity present?
Yes
Check for continuity from pin 3VR1P1-G to airframe ground.
Is continuity present?
Yes
No
No
Check for continuity from pin 3VR1P1-B to 22J1-19.
Is continuity present?
Yes
Repair or replace wire X15A22N (1).
No
Yes
Repair or replace wire X6A20 (1) BLU.
Repair or replace wire X6B20 (1) BLU.

3 AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from pin 3VR1P1-L to airframe ground. Is continuity present?
Yes
Check for continuity from pin 3VR1P1-H to relay 3K3-A1. Is continuity present?
Yes
No
Repair or replace wire X28A22N (1).
No
Check for continuity from pin 3VR1P1-H to 2A1P1-P. Is continuity present?
Yes
No
No
Repair or replace wire X1E22 (1) WHT.
Yes
Repair or replace wire X1D22 (1) WHT.
Yes
Check for continuity from pin 3VR1P1-J to relay terminal 3K3-B1. Is continuity present?
Yes
Check for continuity from pin 3VR1P1-K to relay terminal 3K3-C1. Is continuity present?
Yes
Yes
No
No
Check for continuity from pin 3VR1P1-J to 2A1P1-M. Is continuity present?
Yes
Check for continuity from pin 3VR1P1-K to 2A1P1-K. Is continuity present?
Yes
No
No
Repair or replace wire X1E22 (1) BLU.
Repair or replace wire X1E22 (1) ORN.
Yes
Repair or replace wire X1D22 (1) BLU.
Yes
Repair or replace wire X1D22 (1) ORN.

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from terminal 3G1-T1 to 3K3-A1.
Is continuity present?
Yes
Check for continuity from terminal 3G1-T3 to 3K3-C1.
Is continuity present?
Yes
No
No
Check for continuity from terminal 3G1-T1 to pin 3P1-1.
Is continuity present?
Yes
Check for continuity from terminal 3G1-T3 to 3P1-3.
Is continuity present?
Yes
No
No
Repair or replace wire X1A12 (1) WHT.
Repair or replace wire X1A12 (1) ORN.
Yes
Yes
Check for continuity from pin 3J1-1 to 2A1P2-H.
Is continuity present?
Yes
Yes
Check for continuity from pin 3J1-3 to 2A1P2-K.
Is continuity present?
Yes
No
No
Repair or replace wire X1B12 (1) WHT.
Repair or replace wire X1B12 (1) ORN.
Yes
Repair or replace wire X1C12 (1) WHT.
Yes
Repair or replace wire X1C12 (1) ORN.

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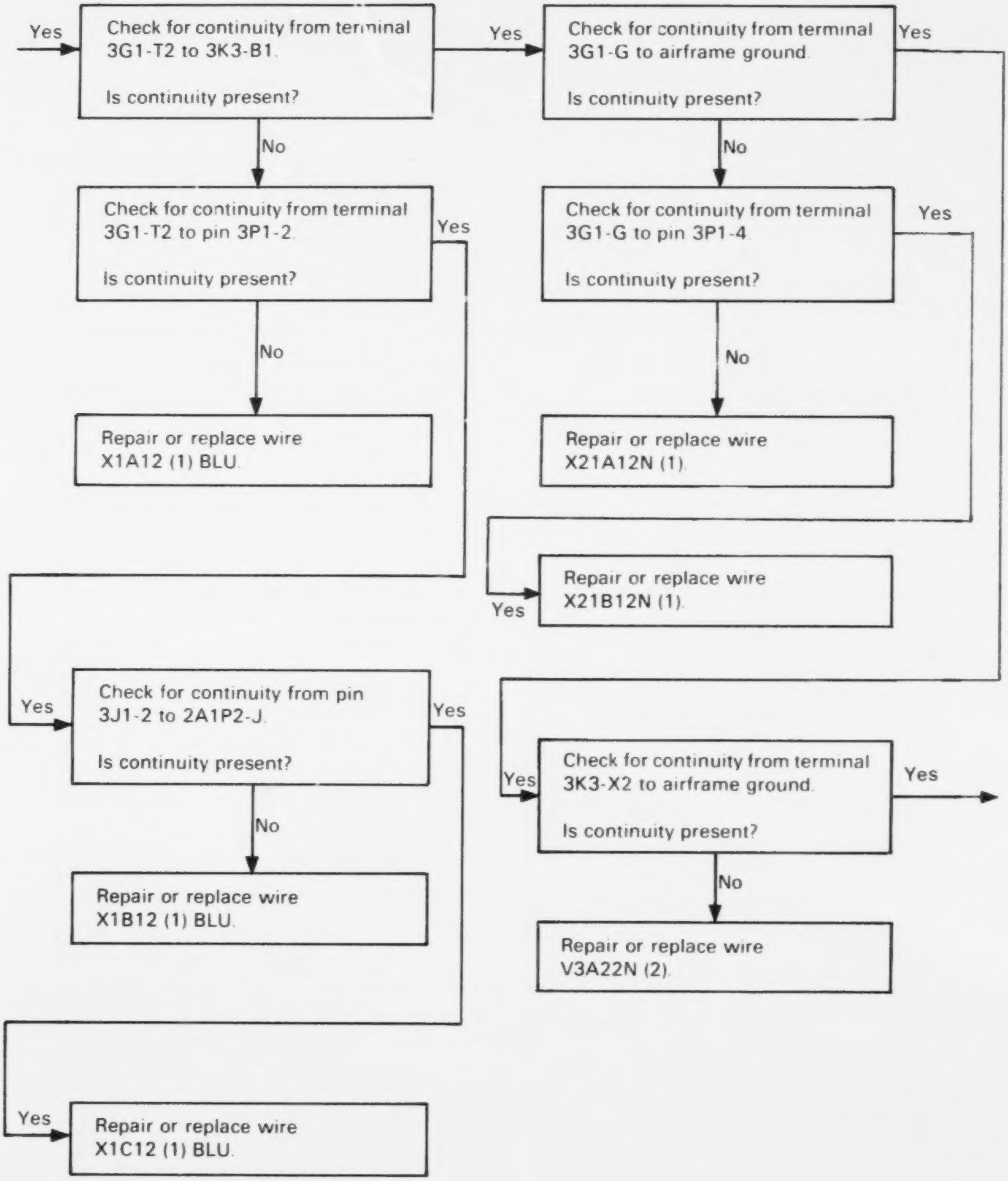
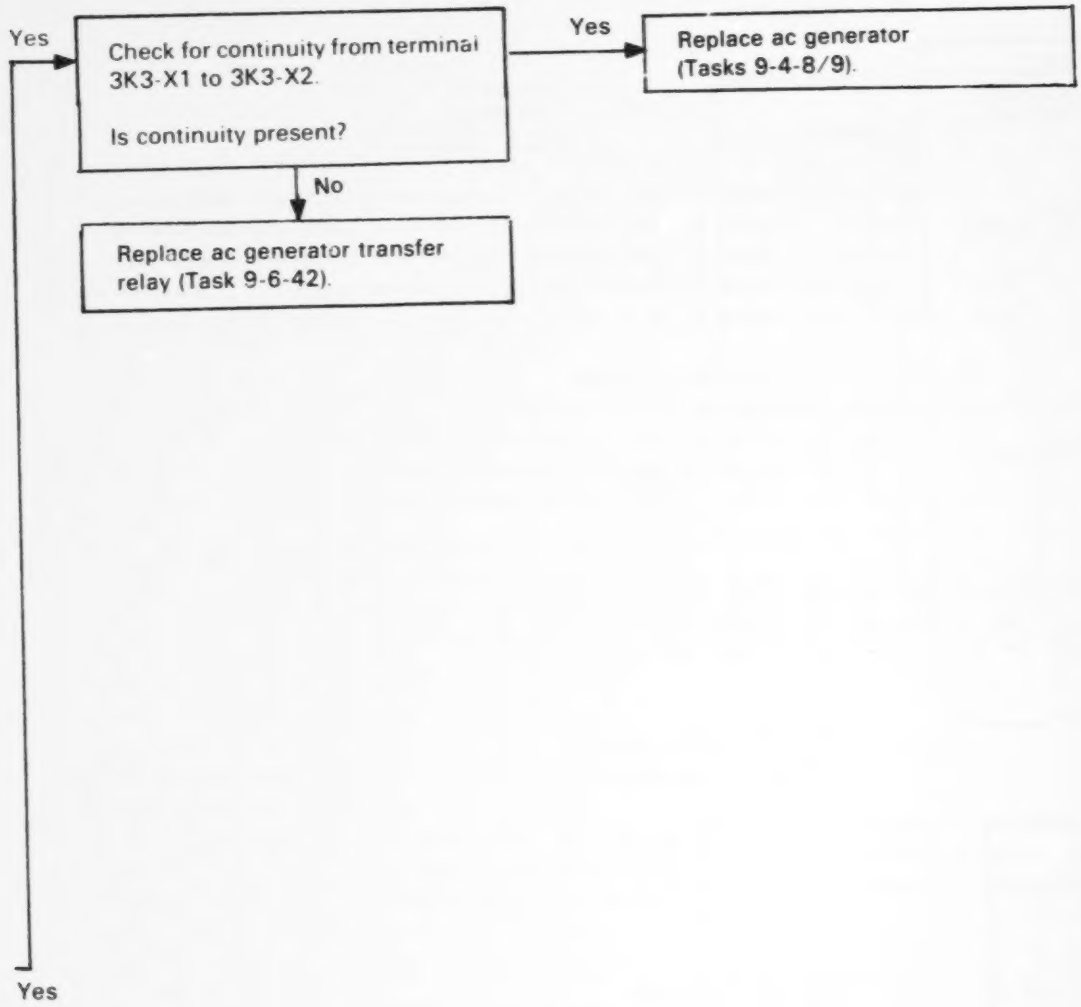
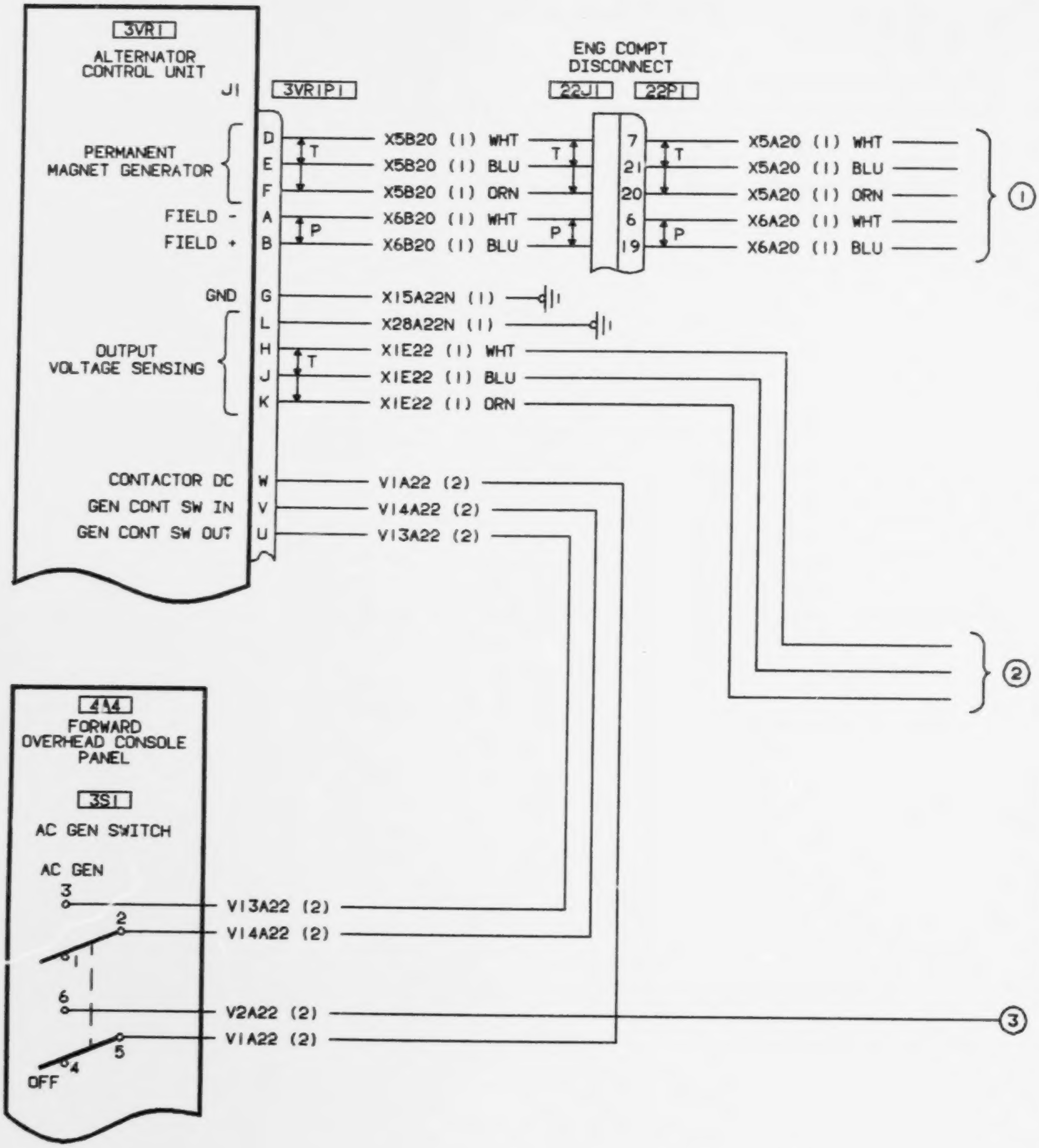
3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from terminal 3G1-T2 to 3K3-B1.
Is continuity present?
Yes
No
Check for continuity from terminal 3G1-T2 to pin 3P1-2.
Is continuity present?
Yes
No
Repair or replace wire X1A12 (1) BLU.
Check for continuity from terminal 3G1-G to airframe ground.
Is continuity present?
Yes
No
Check for continuity from terminal 3G1-G to pin 3P1-4.
Is continuity present?
Yes
No
Repair or replace wire X21A12N (1).
Yes
Repair or replace wire X21B12N (1).
Yes
Check for continuity from pin 3J1-2 to 2A1P2-J.
Is continuity present?
Yes
No
Repair or replace wire X1B12 (1) BLU.
Yes
Repair or replace wire X1C12 (1) BLU.
Yes
Check for continuity from terminal 3K3-X2 to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire V3A22N (2).

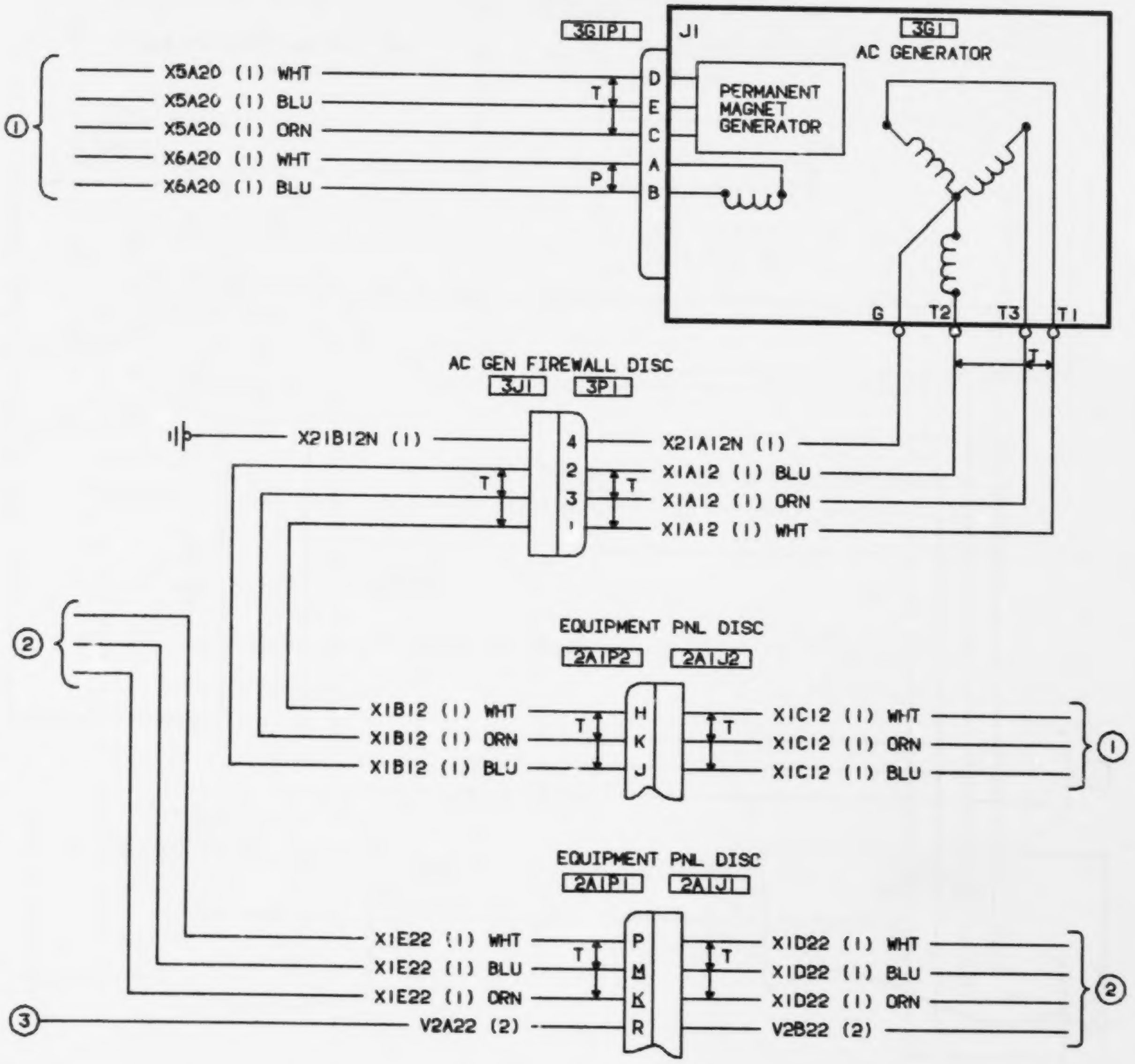
3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


Yes
Check for continuity from terminal 3K3-X1 to 3K3-X2.
Is continuity present?
Yes
Replace ac generator (Tasks 9-4-8/9).
No
Replace ac generator transfer relay (Task 9-6-42).
Yes

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)

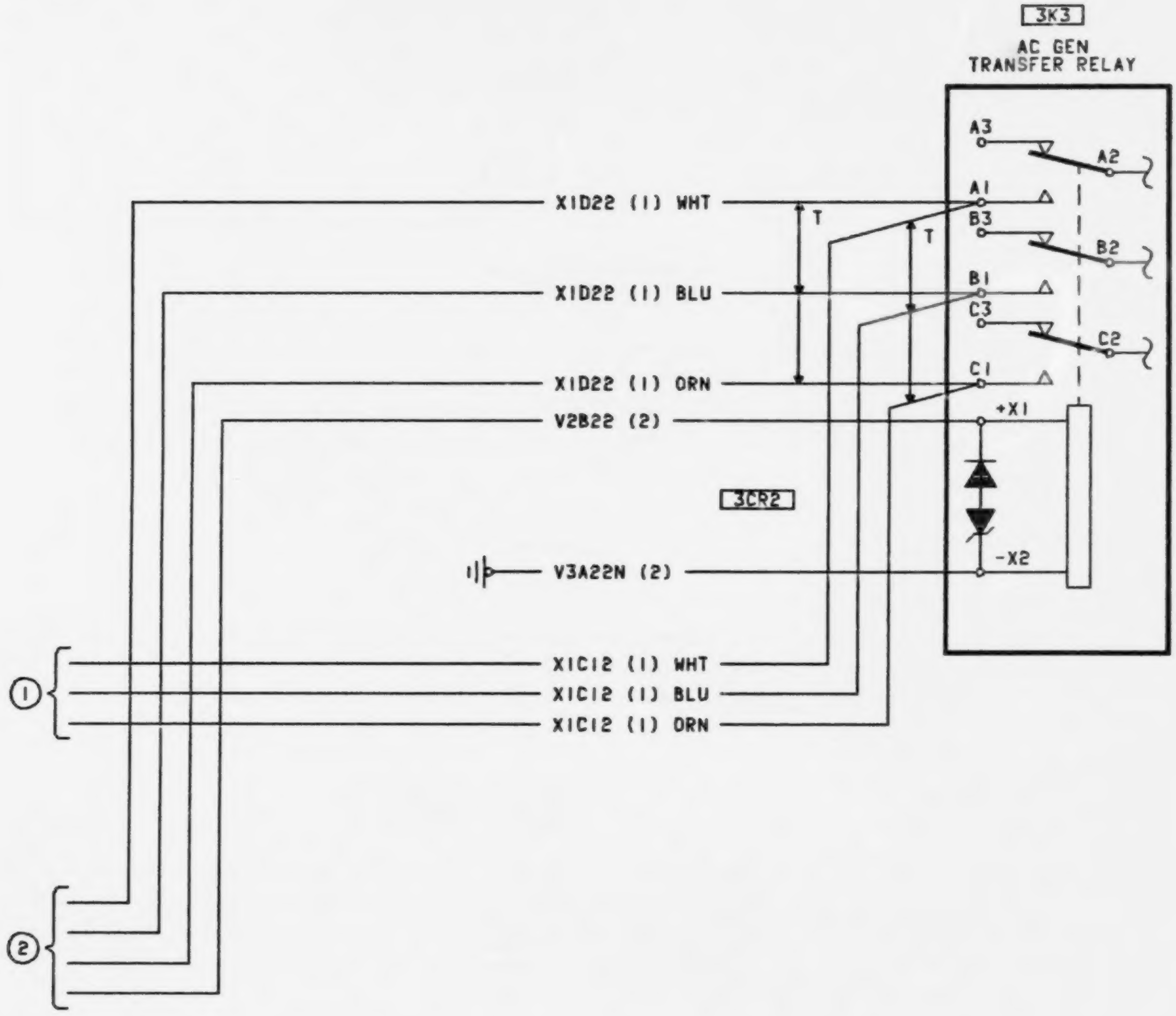

3VR1
ALTERNATOR CONTROL UNIT
J1
3VR1P1
ENG COMPT DISCONNECT
22J1
22P1
PERMANENT MAGNET GENERATOR
D
E
F
FIELD - A
FIELD + B
GND G
OUTPUT VOLTAGE SENSING
L
H
J
K
CONTACTOR DC W
GEN CONT SW IN V
GEN CONT SW OUT U
T
P
X5B20 (1) WHT
X5B20 (1) BLU
X5B20 (1) ORN
X6B20 (1) WHT
X6B20 (1) BLU
7
21
20
6
19
X5A20 (1) WHT
X5A20 (1) BLU
X5A20 (1) ORN
X6A20 (1) WHT
X6A20 (1) BLU
①
X15A22N (1)
X28A22N (1)
X1E22 (1) WHT
X1E22 (1) BLU
X1E22 (1) ORN
V1A22 (2)
V14A22 (2)
V13A22 (2)
②
4S4
FORWARD OVERHEAD CONSOLE PANEL
3S1
AC GEN SWITCH
AC GEN
3
2
1
6
5
4
OFF
V13A22 (2)
V14A22 (2)
V2A22 (2)
V1A22 (2)
③
406475-39-1A

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


3G1P1
J1
3G1
AC GENERATOR
①
X5A20 (1) WHT
X5A20 (1) BLU
X5A20 (1) ORN
X6A20 (1) WHT
X6A20 (1) BLU
T
P
D
E
C
A
B
PERMANENT MAGNET GENERATOR
G
T2
T3
T1
T
AC GEN FIREWALL DISC
3J1
3P1
X21B12N (1)
X21A12N (1)
X1A12 (1) BLU
X1A12 (1) ORN
X1A12 (1) WHT
4
2
3
1
T
T
②
EQUIPMENT PNL DISC
2A1P2
2A1J2
X1B12 (1) WHT
X1B12 (1) ORN
X1B12 (1) BLU
H
K
J
T
T
X1C12 (1) WHT
X1C12 (1) ORN
X1C12 (1) BLU
①
EQUIPMENT PNL DISC
2A1P1
2A1J1
X1E22 (1) WHT
X1E22 (1) BLU
X1E22 (1) ORN
V2A22 (2)
③
P
M
K
R
T
T
X1D22 (1) WHT
X1D22 (1) BLU
X1D22 (1) ORN
V2B22 (2)
②

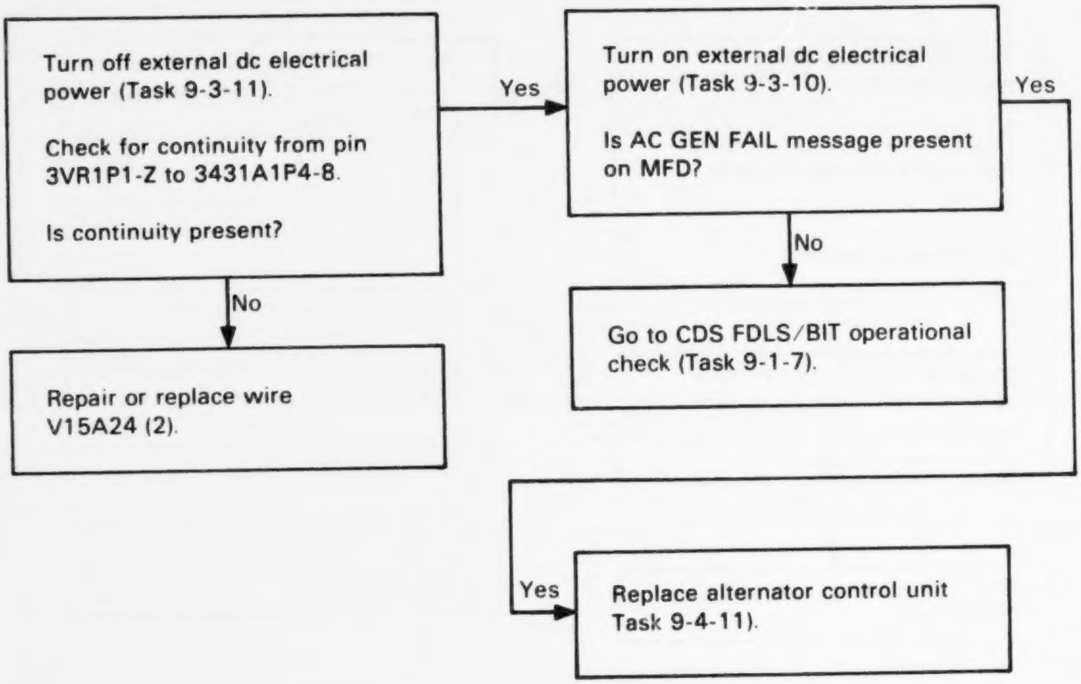
406475-39-2B

3. AC GENERATOR WILL NOT COME ON LINE WHEN ROTOR RPM IS BETWEEN 93 AND 96 PERCENT (CONT)


3K3
AC GEN
TRANSFER RELAY
A3
A2
A1
B3
B2
B1
C3
C2
C1
+X1
-X2
T
T
X1D22 (1) WHT
X1D22 (1) BLU
X1D22 (1) ORN
V2B22 (2)
3CR2
V3A22N (2)
X1C12 (1) WHT
X1C12 (1) BLU
X1C12 (1) ORN
①
②

406475-39-3A

4. AC GEN FAIL MESSAGE NOT DISPLAYED ON MFD (AT FLIGHT IDLE)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3VR1P1-Z to 3431A1P4-8.

Is continuity present?

Turn on external dc electrical power (Task 9-3-10).

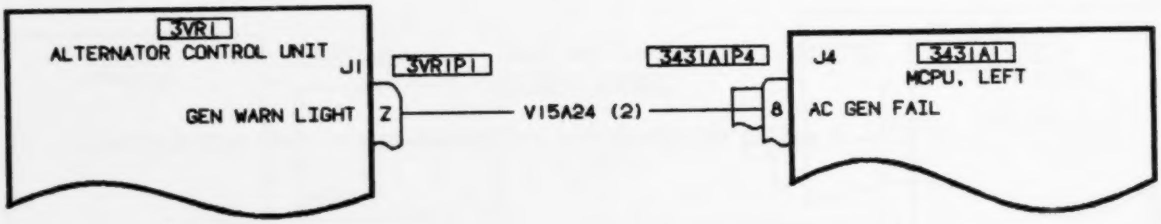
Is AC GEN FAIL message present on MFD?

Repair or replace wire V15A24 (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7).

Replace alternator control unit Task 9-4-11).

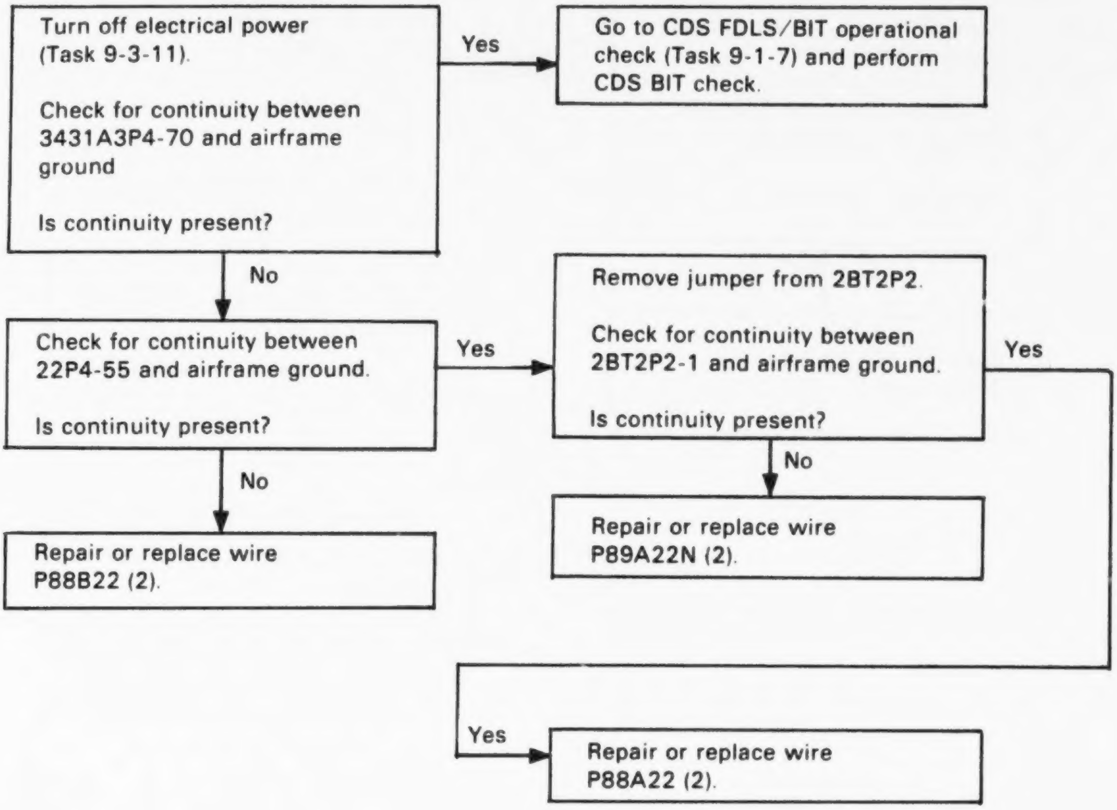
Yes
No
No
Yes
Yes



3VR1
ALTERNATOR CONTROL UNIT
J1
3VR1P1
GEN WARN LIGHT
Z
V15A24 (2)
3431A1P4
8
J4
3431A1
MCPU, LEFT
AC GEN FAIL

406475-22A

5. BATT PREHEAT ON NOT DISPLAYED ON MFD (EXTERNAL AC POWER ON AND JUMPER BETWEEN PINS 1 AND 3 OF CONNECTOR 2BT2P2)



Turn off electrical power (Task 9-3-11).

Check for continuity between 3431A3P4-70 and airframe ground

Is continuity present?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Check for continuity between 22P4-55 and airframe ground.

Is continuity present?

Remove jumper from 2BT2P2.

Check for continuity between 2BT2P2-1 and airframe ground.

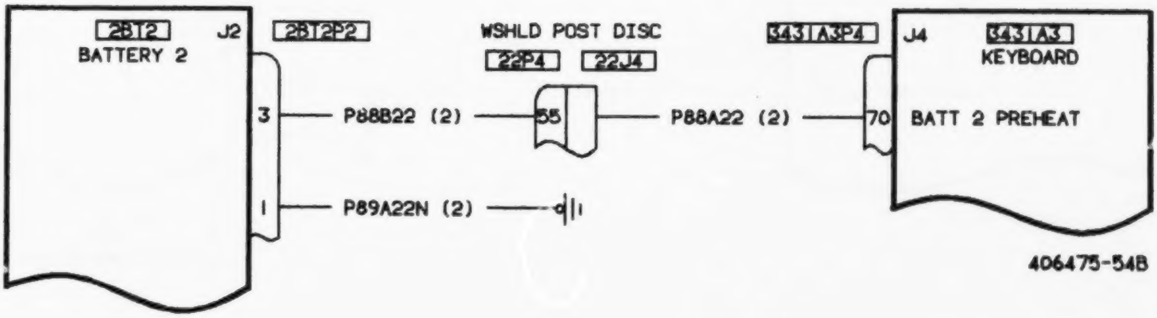
Is continuity present?

Repair or replace wire P88B22 (2).

Repair or replace wire P89A22N (2).

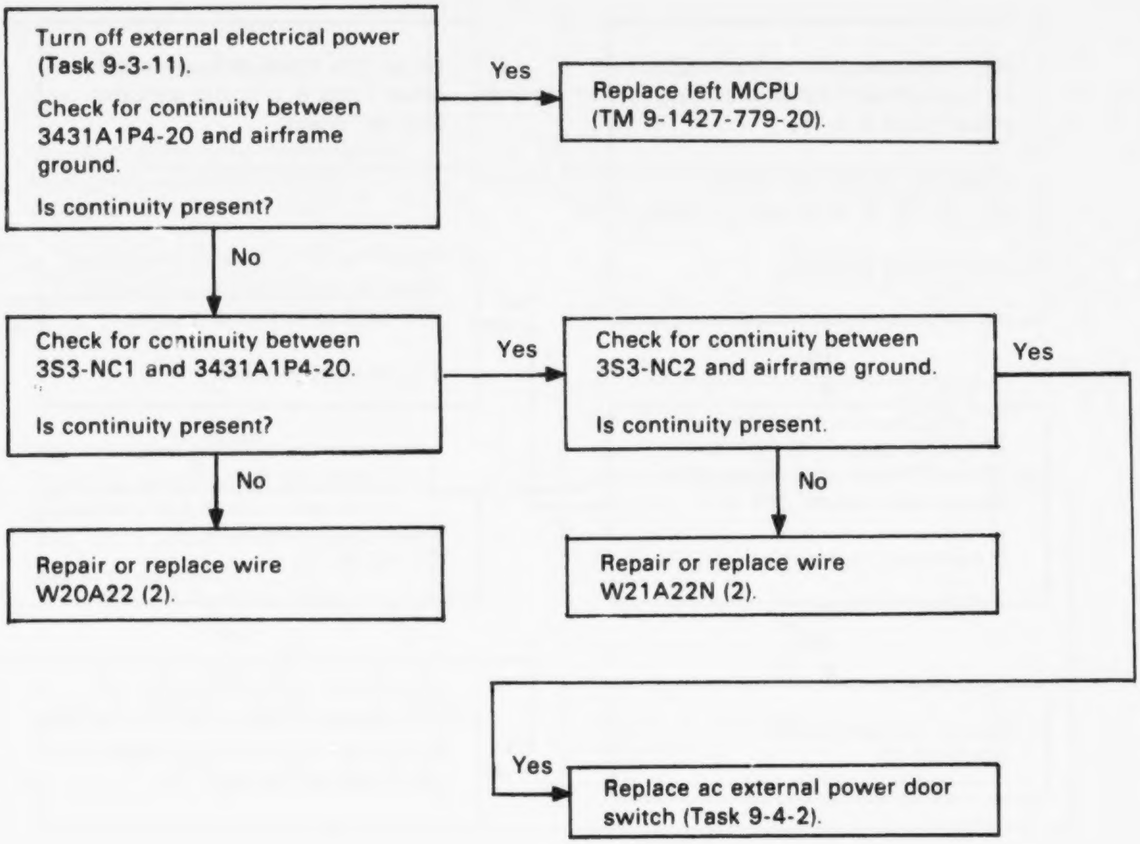
Repair or replace wire P88A22 (2).

Yes
No
Yes
No
Yes
No
Yes



2BT2
BATTERY 2
J2
2BT2P2
3
1
P88B22 (2)
P89A22N (2)
WSHLD POST DISC
22P4
22J4
55
P88A22 (2)
3431A3P4
J4
3431A3
KEYBOARD
70
BATT 2 PREHEAT
406475-54B

6. ADVISORY EXT PWR NOT DISPLAYED ON MFD (EXTERNAL AC POWER IN USE)



Turn off external electrical power (Task 9-3-11).

Check for continuity between 3431A1P4-20 and airframe ground.

Is continuity present?

Yes: Replace left MCPU (TM 9-1427-779-20).

No: Check for continuity between 3S3-NC1 and 3431A1P4-20.

Is continuity present?

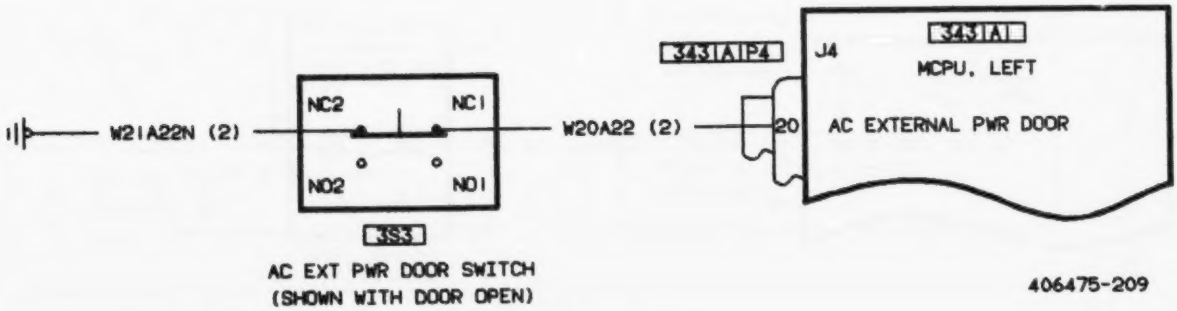
No: Repair or replace wire W20A22 (2).

Yes: Check for continuity between 3S3-NC2 and airframe ground.

Is continuity present.

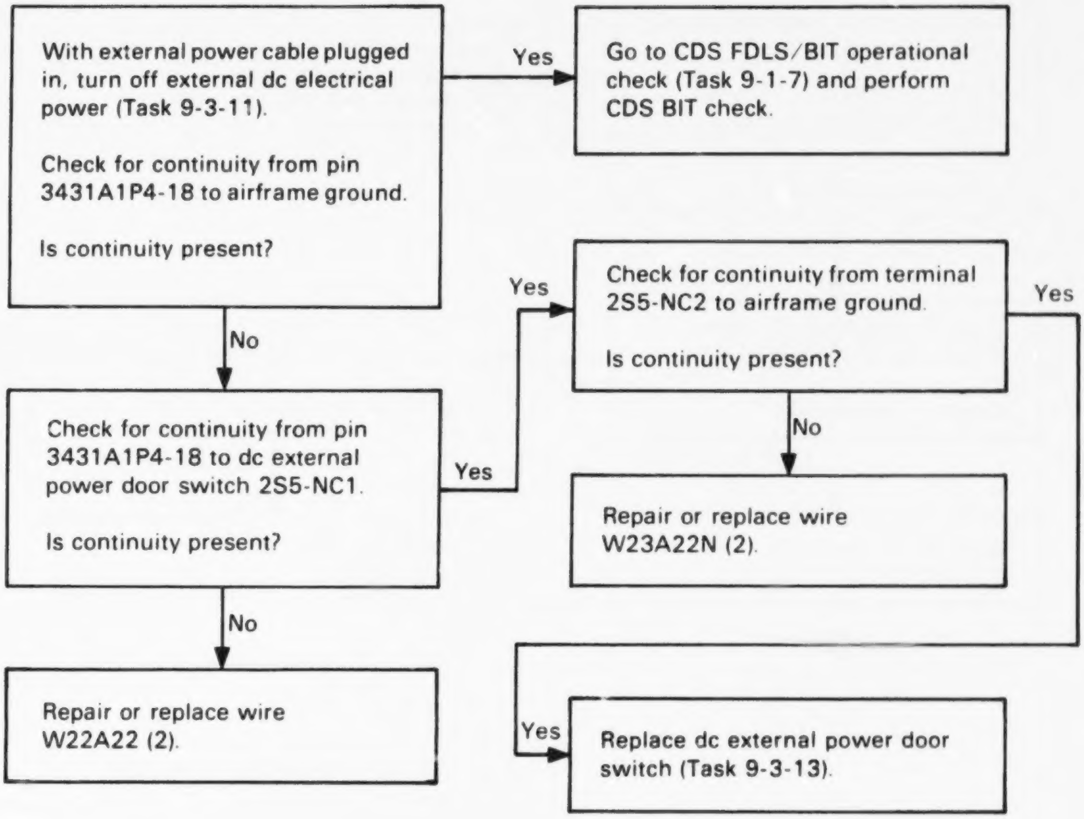
No: Repair or replace wire W21A22N (2).

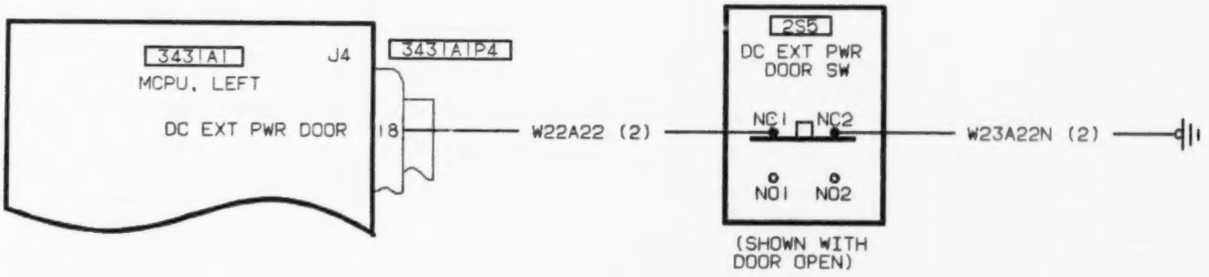
Yes: Replace ac external power door switch (Task 9-4-2).


W21A22N (2)
NC2
NC1
NO2
NO1
3S3
AC EXT PWR DOOR SWITCH
(SHOWN WITH DOOR OPEN)
W20A22 (2)
3431A1P4
J4
20
3431A1
MCPU, LEFT
AC EXTERNAL PWR DOOR

406475-209

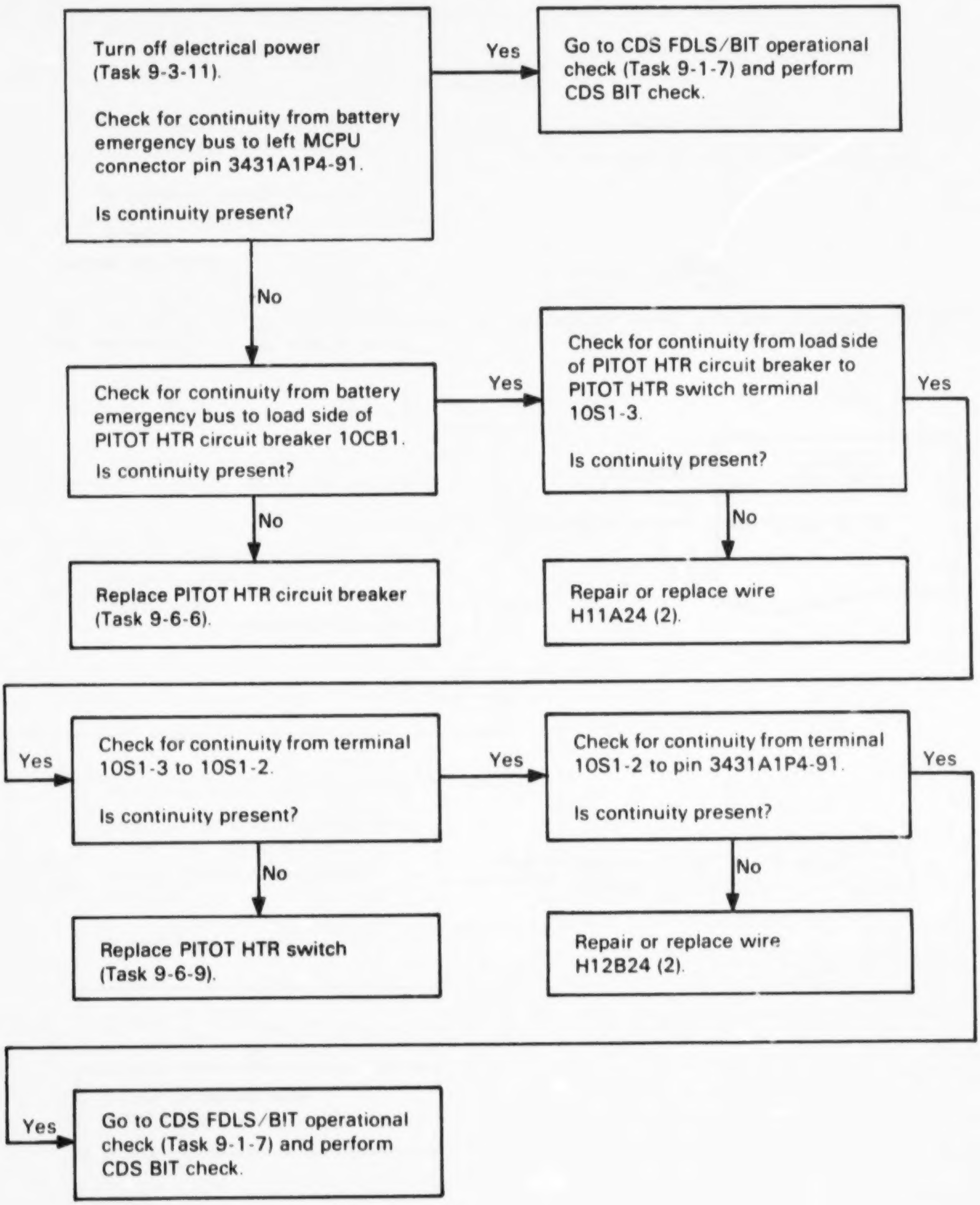
7. ADVISORY EXT PWR NOT DISPLAYED ON MFD (EXTERNAL DC POWER IN USE)


With external power cable plugged in, turn off external dc electrical power (Task 9-3-11). Check for continuity from pin 3431A1P4-18 to airframe ground. Is continuity present?
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.
No
Check for continuity from pin 3431A1P4-18 to dc external power door switch 2S5-NC1. Is continuity present?
Yes
Check for continuity from terminal 2S5-NC2 to airframe ground. Is continuity present?
Yes
No
Repair or replace wire W23A22N (2).
No
Repair or replace wire W22A22 (2).
Yes
Replace dc external power door switch (Task 9-3-13).


3431A1
MCPU, LEFT
J4
3431A1P4
DC EXT PWR DOOR
18
W22A22 (2)
2S5
DC EXT PWR DOOR SW
NC1
NC2
NO1
NO2
(SHOWN WITH DOOR OPEN)
W23A22N (2)

406475-16

8. ADVISORY PITOT HEAT ON MESSAGE NOT DISPLAYED ON MFD WITH PITOT HEAT SWITCH ON



Turn off electrical power (Task 9-3-11).

Check for continuity from battery emergency bus to left MCPU connector pin 3431A1P4-91.

Is continuity present?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Check for continuity from battery emergency bus to load side of PITOT HTR circuit breaker 10CB1.

Is continuity present?

Check for continuity from load side of PITOT HTR circuit breaker to PITOT HTR switch terminal 10S1-3.

Is continuity present?

Replace PITOT HTR circuit breaker (Task 9-6-6).

Repair or replace wire H11A24 (2).

Check for continuity from terminal 10S1-3 to 10S1-2.

Is continuity present?

Check for continuity from terminal 10S1-2 to pin 3431A1P4-91.

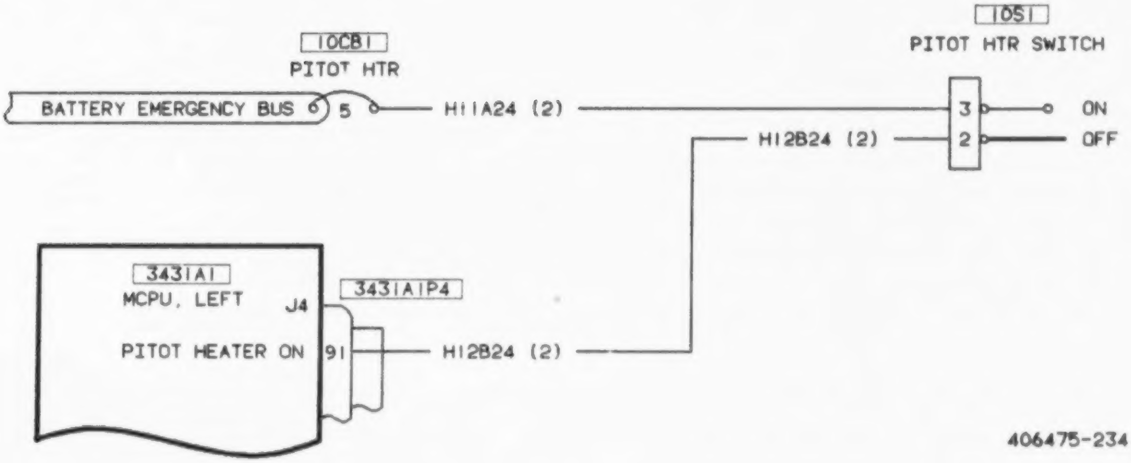
Is continuity present?

Replace PITOT HTR switch (Task 9-6-9).

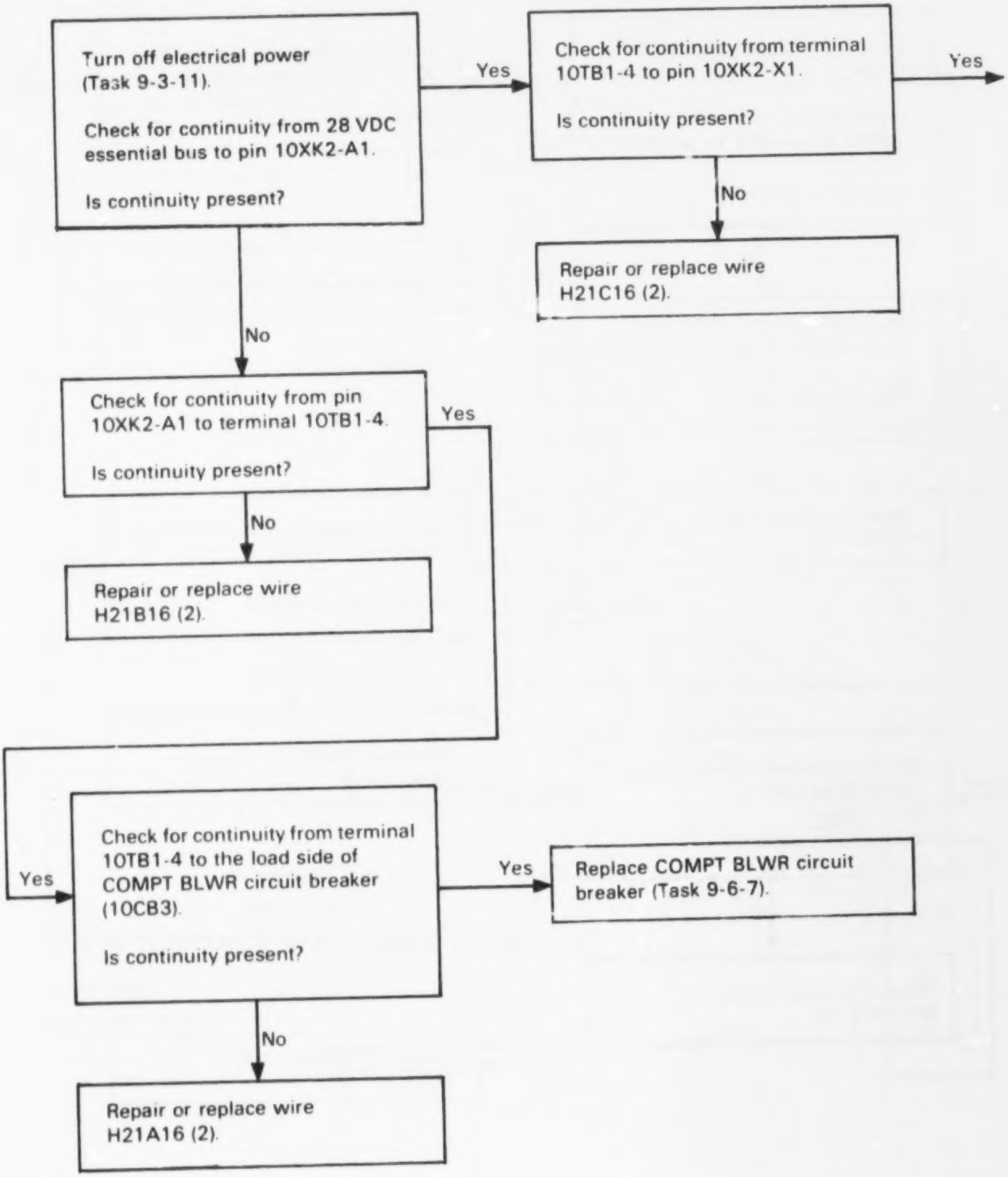
Repair or replace wire H12B24 (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

8. ADVISORY PITOT HEAT ON MESSAGE NOT DISPLAYED ON MFD WITH PITOT HEAT SWITCH ON (CONT)


10CB1
PITOT HTR
BATTERY EMERGENCY BUS
5
H11A24 (2)
10S1
PITOT HTR SWITCH
3
2
ON
OFF
H12B24 (2)
3431A1
MCPU, LEFT
J4
3431A1P4
PITOT HEATER ON
91
H12B24 (2)
406475-234

9. AVIONICS COMPARTMENT BLOWER DOES NOT OPERATE



Turn off electrical power (Task 9-3-11).

Check for continuity from 28 VDC essential bus to pin 10XK2-A1.

Is continuity present?

Check for continuity from terminal 10TB1-4 to pin 10XK2-X1.

Is continuity present?

Repair or replace wire H21C16 (2).

Check for continuity from pin 10XK2-A1 to terminal 10TB1-4.

Is continuity present?

Repair or replace wire H21B16 (2).

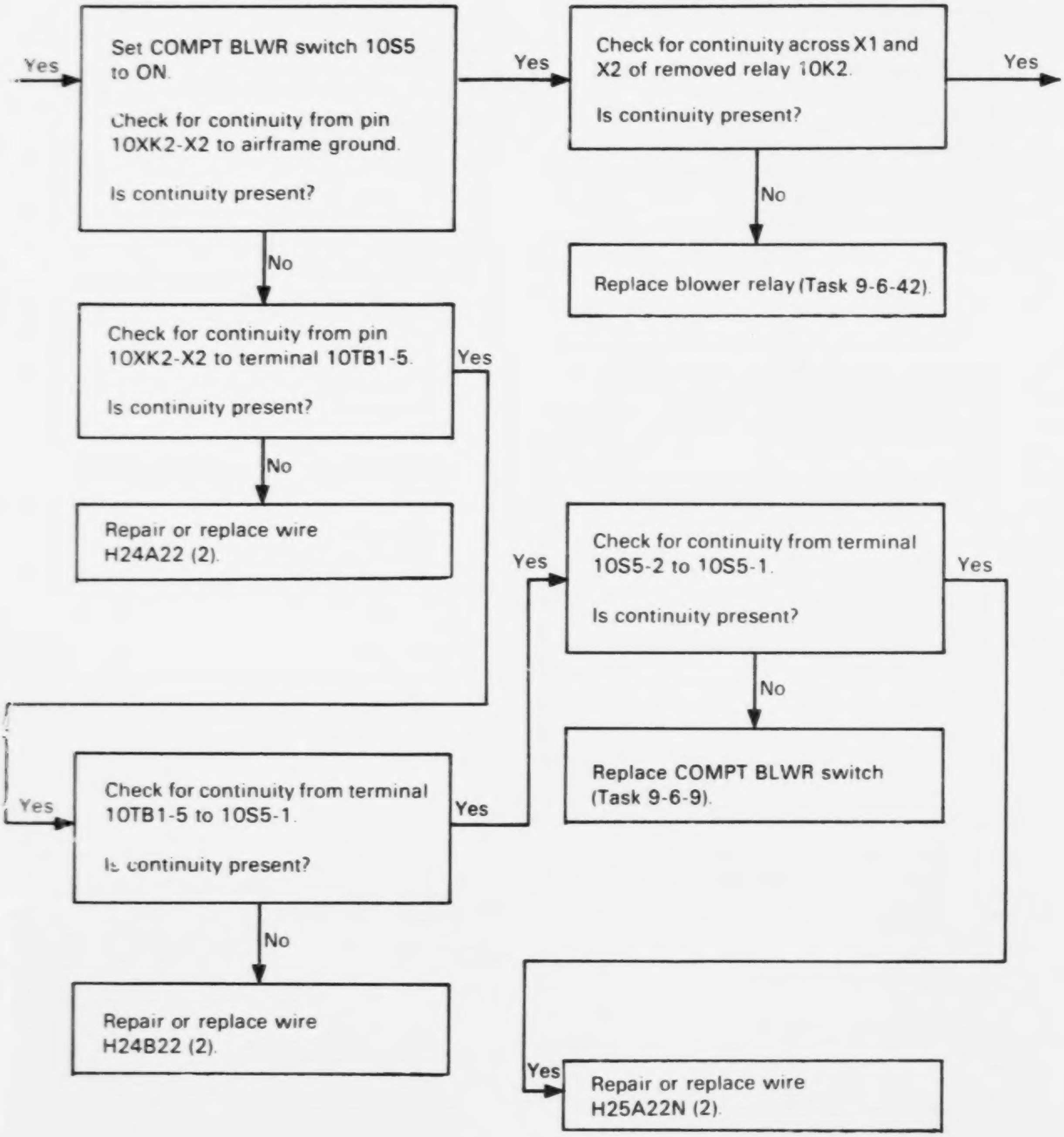
Check for continuity from terminal 10TB1-4 to the load side of COMPT BLWR circuit breaker (10CB3).

Is continuity present?

Replace COMPT BLWR circuit breaker (Task 9-6-7).

Repair or replace wire H21A16 (2).

9 AVIONICS COMPARTMENT BLOWER DOES NOT OPERATE (CONT)



Set COMPT BLWR switch 10S5 to ON.

Check for continuity from pin 10XK2-X2 to airframe ground.

Is continuity present?

Check for continuity across X1 and X2 of removed relay 10K2.

Is continuity present?

Replace blower relay (Task 9-6-42).

Check for continuity from pin 10XK2-X2 to terminal 10TB1-5.

Is continuity present?

Repair or replace wire H24A22 (2).

Check for continuity from terminal 10S5-2 to 10S5-1.

Is continuity present?

Replace COMPT BLWR switch (Task 9-6-9).

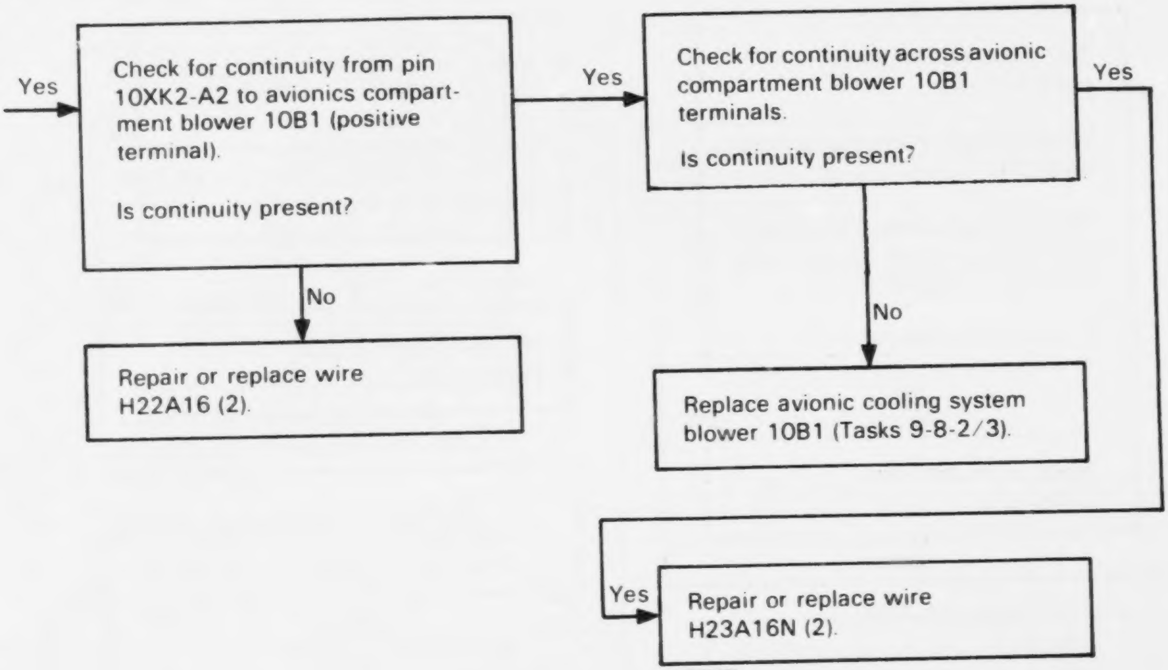
Check for continuity from terminal 10TB1-5 to 10S5-1.

Is continuity present?

Repair or replace wire H24B22 (2).

Repair or replace wire H25A22N (2).

9. AVIONICS COMPARTMENT BLOWER DOES NOT OPERATE (CONT)



Check for continuity from pin 10XK2-A2 to avionics compartment blower 10B1 (positive terminal).

Is continuity present?

Repair or replace wire H22A16 (2).

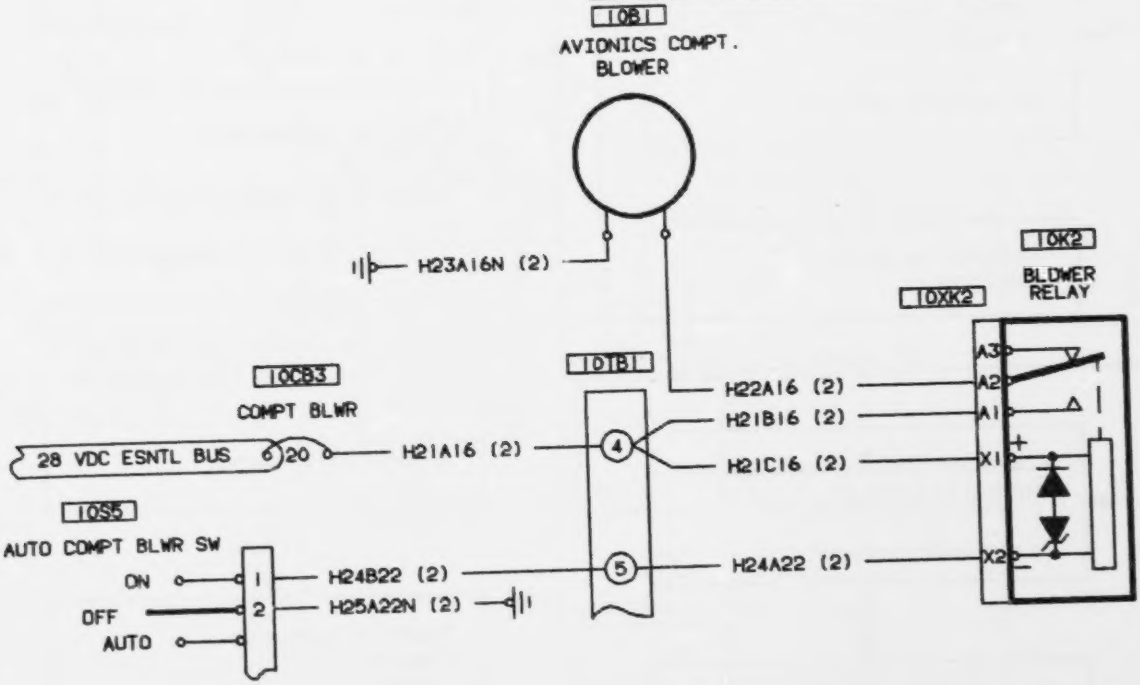
Check for continuity across avionic compartment blower 10B1 terminals.

Is continuity present?

Replace avionic cooling system blower 10B1 (Tasks 9-8-2/3).

Repair or replace wire H23A16N (2).

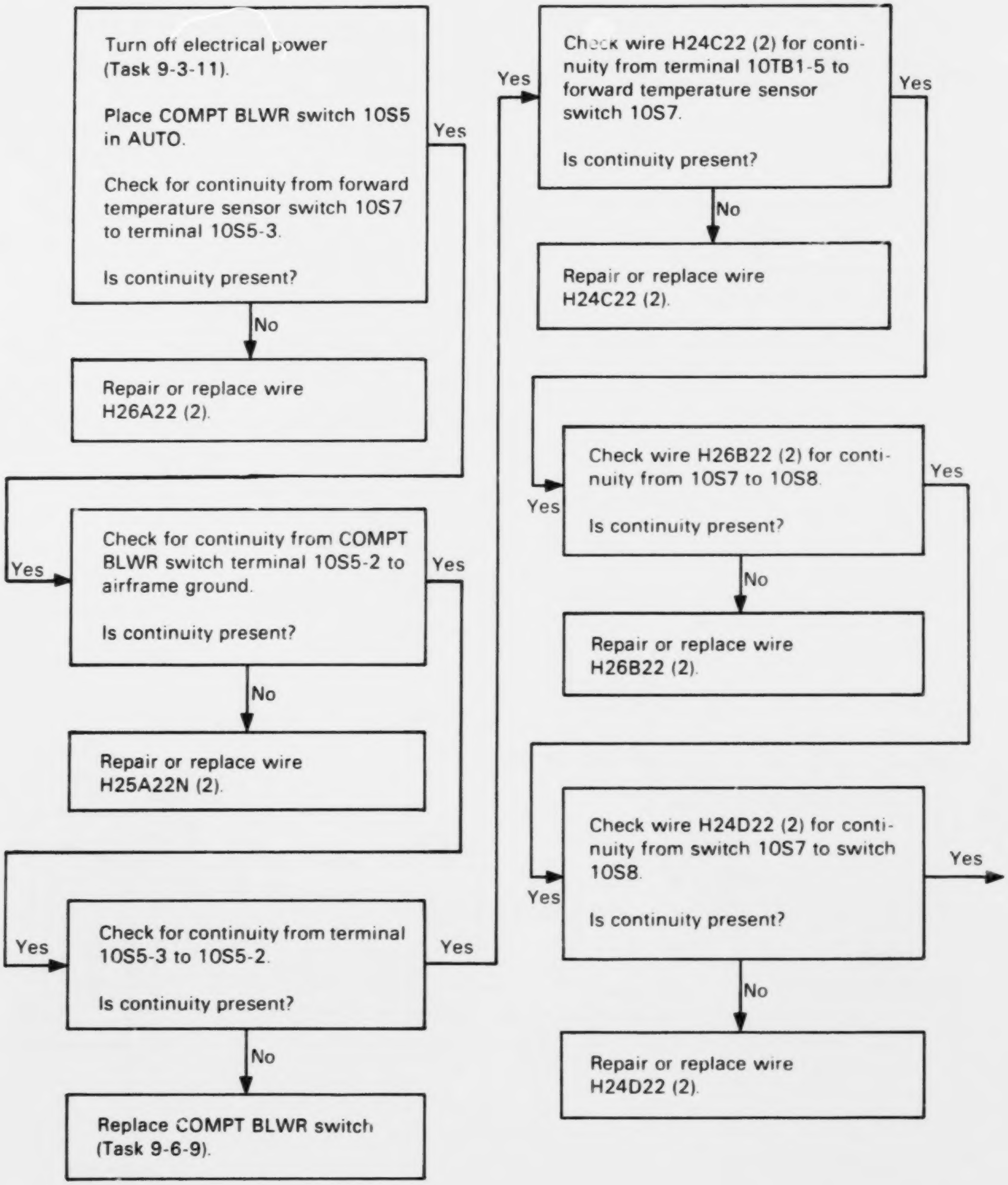
Yes
Yes
No
Yes
No
Yes



10B1
AVIONICS COMPT. BLOWER
H23A16N (2)
10K2
BLOWER RELAY
10XK2
A3
A2
A1
X1
X2
+
10TB1
10CB3
COMPT BLWR
28 VDC ESNTL BUS
20
H21A16 (2)
4
H22A16 (2)
H21B16 (2)
H21C16 (2)
10S5
AUTO COMPT BLWR SW
ON
OFF
AUTO
1
2
H24B22 (2)
H25A22N (2)
5
H24A22 (2)

406475-57A

10. AVIONICS COMPARTMENT BLOWER NOT CONTROLLED BY TEMPERATURE SENSING SWITCHES


Turn off electrical power (Task 9-3-11).
Place COMPT BLWR switch 10S5 in AUTO.
Check for continuity from forward temperature sensor switch 10S7 to terminal 10S5-3.
Is continuity present?
No
Repair or replace wire H26A22 (2).
Yes
Check for continuity from COMPT BLWR switch terminal 10S5-2 to airframe ground.
Is continuity present?
No
Repair or replace wire H25A22N (2).
Yes
Check for continuity from terminal 10S5-3 to 10S5-2.
Is continuity present?
No
Replace COMPT BLWR switch (Task 9-6-9).
Yes
Check wire H24C22 (2) for continuity from terminal 10TB1-5 to forward temperature sensor switch 10S7.
Is continuity present?
No
Repair or replace wire H24C22 (2).
Yes
Check wire H26B22 (2) for continuity from 10S7 to 10S8.
Is continuity present?
No
Repair or replace wire H26B22 (2).
Yes
Check wire H24D22 (2) for continuity from switch 10S7 to switch 10S8.
Is continuity present?
No
Repair or replace wire H24D22 (2).
Yes

10. AVIONICS COMPARTMENT BLOWER NOT CONTROLLED BY TEMPERATURE SENSING SWITCHES (CONT)

Yes

Remove wire H26B22 (2) from switch 10S8.

Check for continuity across switch 10S7. If continuity is present, blow air over switch until it opens. If it is open, heat switch with heat gun until switch closes.

Do changes occur?

Yes

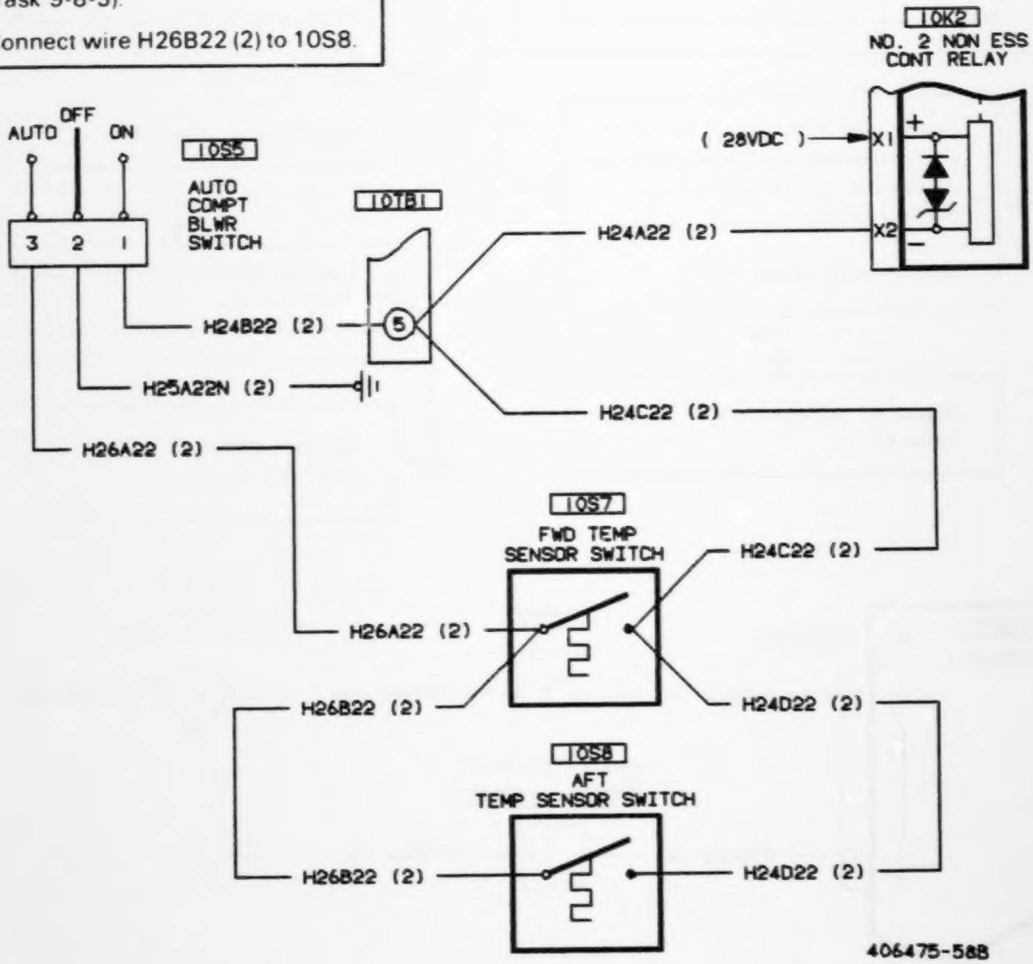
Replace aft compartment temperature sensor switch 10S8 (Task 9-8-5).

No

Replace forward compartment temperature sensor switch 10S7 (Task 9-8-5).

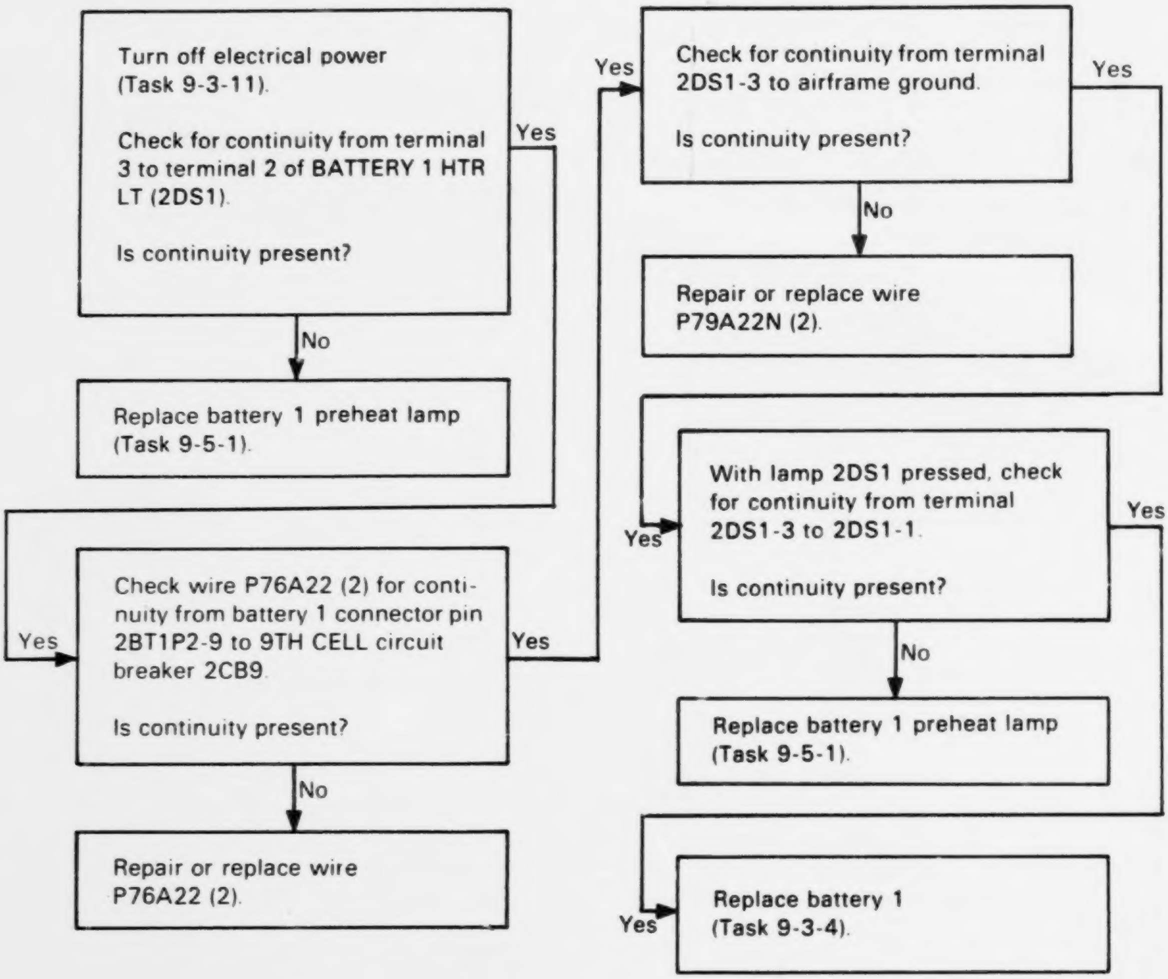
Connect wire H26B22 (2) to 10S8.

Yes


10K2
NO. 2 NON ESS CONT RELAY
(28VDC)
X1
X2
+
−
AUTO
OFF
ON
10S5
AUTO COMPT BLWR SWITCH
3
2
1
10TB1
5
H24A22 (2)
H24B22 (2)
H25A22N (2)
H24C22 (2)
H26A22 (2)
10S7
FWD TEMP SENSOR SWITCH
H24C22 (2)
H26A22 (2)
H26B22 (2)
H24D22 (2)
10S8
AFT TEMP SENSOR SWITCH
H26B22 (2)
H24D22 (2)

406475-58B

11. BATTERY 1 PREHEAT LIGHT NOT LIT DURING PRESS-TO-TEST



Turn off electrical power (Task 9-3-11).

Check for continuity from terminal 3 to terminal 2 of BATTERY 1 HTR LT (2DS1).

Is continuity present?

Replace battery 1 preheat lamp (Task 9-5-1).

Check wire P76A22 (2) for continuity from battery 1 connector pin 2BT1P2-9 to 9TH CELL circuit breaker 2CB9.

Is continuity present?

Repair or replace wire P76A22 (2).

Check for continuity from terminal 2DS1-3 to airframe ground.

Is continuity present?

Repair or replace wire P79A22N (2).

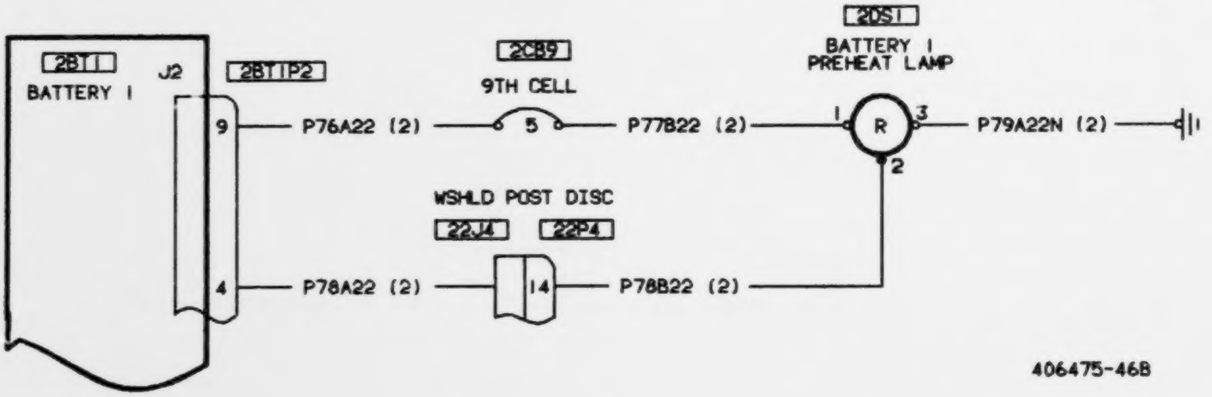
With lamp 2DS1 pressed, check for continuity from terminal 2DS1-3 to 2DS1-1.

Is continuity present?

Replace battery 1 preheat lamp (Task 9-5-1).

Replace battery 1 (Task 9-3-4).

Yes
No
Yes
Yes
No
Yes
No
Yes
Yes
No
Yes



2BT1
BATTERY 1
J2
2BT1P2
9
4
P76A22 (2)
P78A22 (2)
2CB9
9TH CELL
5
P77B22 (2)
WSHLD POST DISC
22J4
22P4
14
P78B22 (2)
2DS1
BATTERY 1
PREHEAT LAMP
1
R
3
2
P79A22N (2)

406475-46B

12. BATTERY 1 PREHEAT LIGHT IS LIT AT TEMPERATURE ABOVE -10°F

Turn off external dc electrical power (Task 9-3-11).

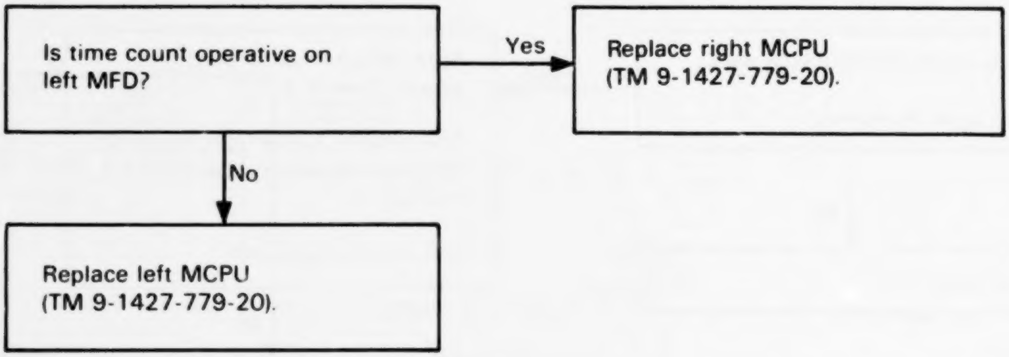
Replace battery 1 (Task 9-3-4).

13. BATTERY 1 VOLTAGE NOT AT CONNECTOR 2BT1J2-15

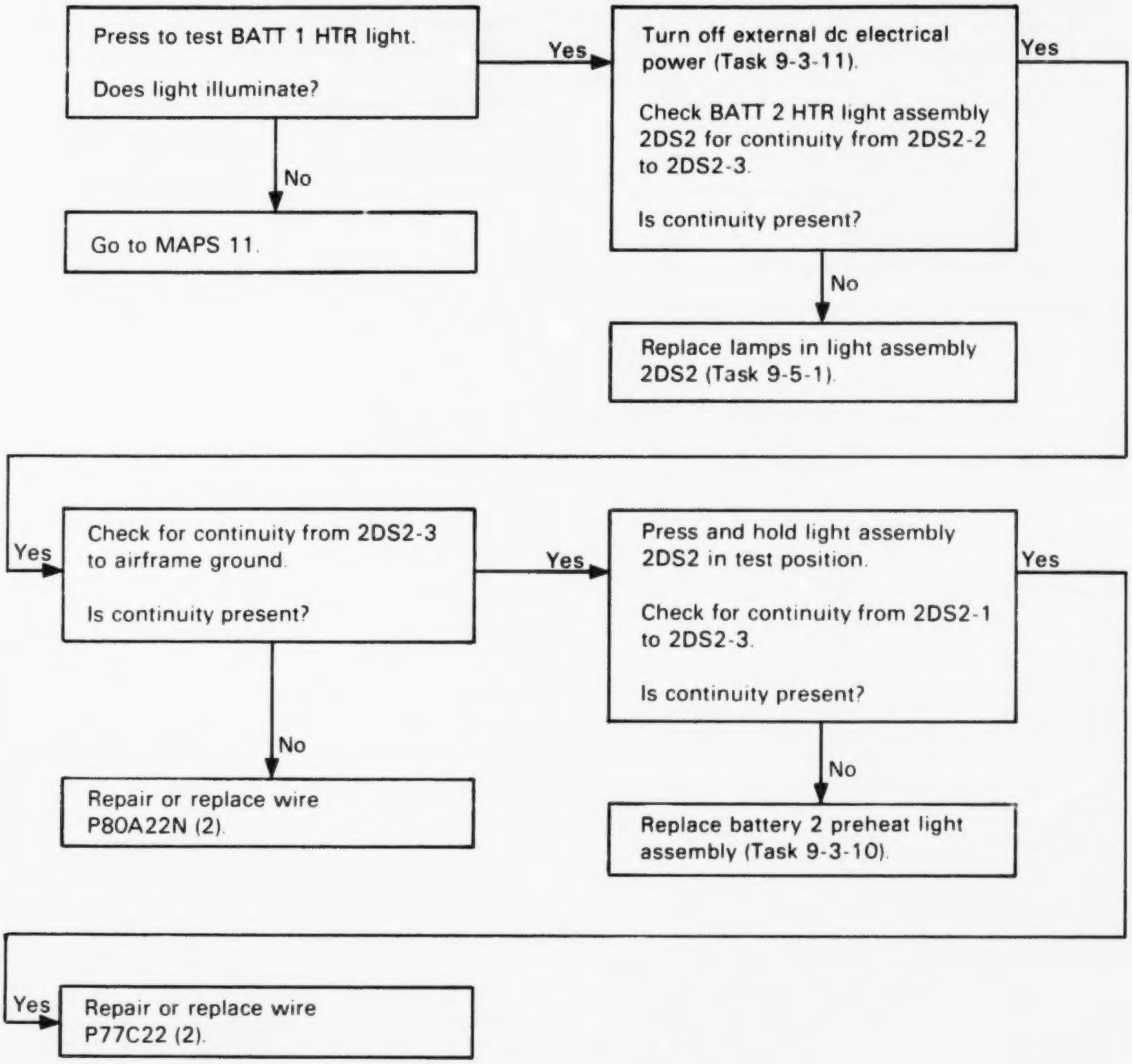
Turn off external dc electrical power (Task 9-3-11).

Replace battery 1 (Task 9-3-4).

14. MFD INITIAL PAGE TIME FUNCTION IS NOT COUNTING UP IN TIME


Is time count operative on left MFD?
Yes
Replace right MCPU (TM 9-1427-779-20).
No
Replace left MCPU (TM 9-1427-779-20).

15. BATTERY 2 PREHEAT LIGHT IS NOT LIT IN PRESS-TO-TEST



Press to test BATT 1 HTR light.

Does light illuminate?

Go to MAPS 11.

Turn off external dc electrical power (Task 9-3-11).

Check BATT 2 HTR light assembly 2DS2 for continuity from 2DS2-2 to 2DS2-3.

Is continuity present?

Replace lamps in light assembly 2DS2 (Task 9-5-1).

Check for continuity from 2DS2-3 to airframe ground.

Is continuity present?

Repair or replace wire P80A22N (2).

Press and hold light assembly 2DS2 in test position.

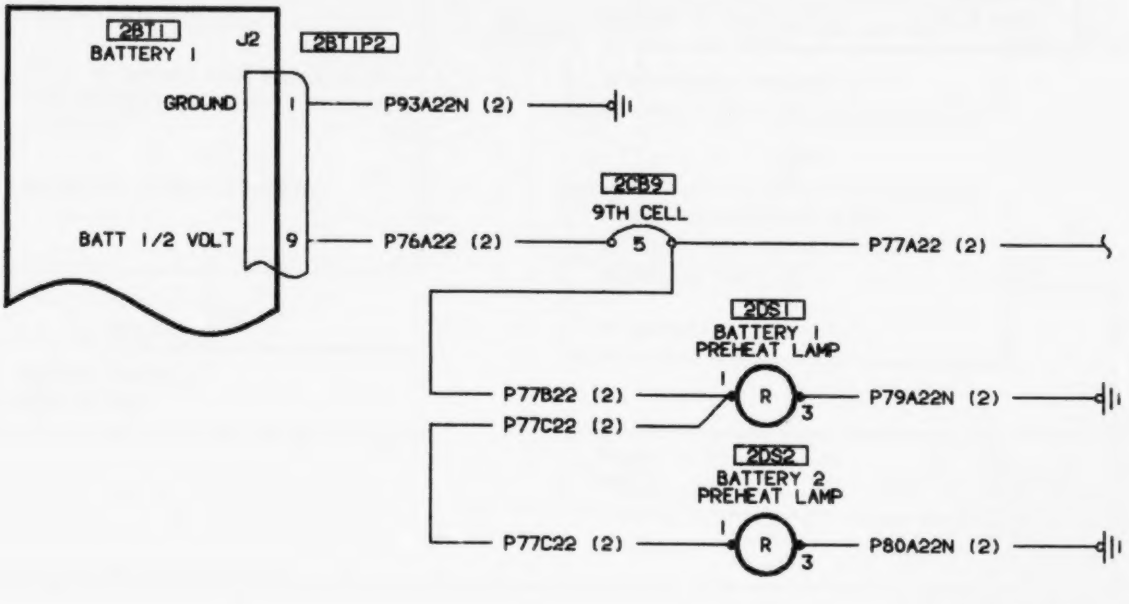
Check for continuity from 2DS2-1 to 2DS2-3.

Is continuity present?

Replace battery 2 preheat light assembly (Task 9-3-10).

Repair or replace wire P77C22 (2).

15. BATTERY 2 PREHEAT LIGHT IS NOT LIT IN PRESS-TO-TEST (CONT)

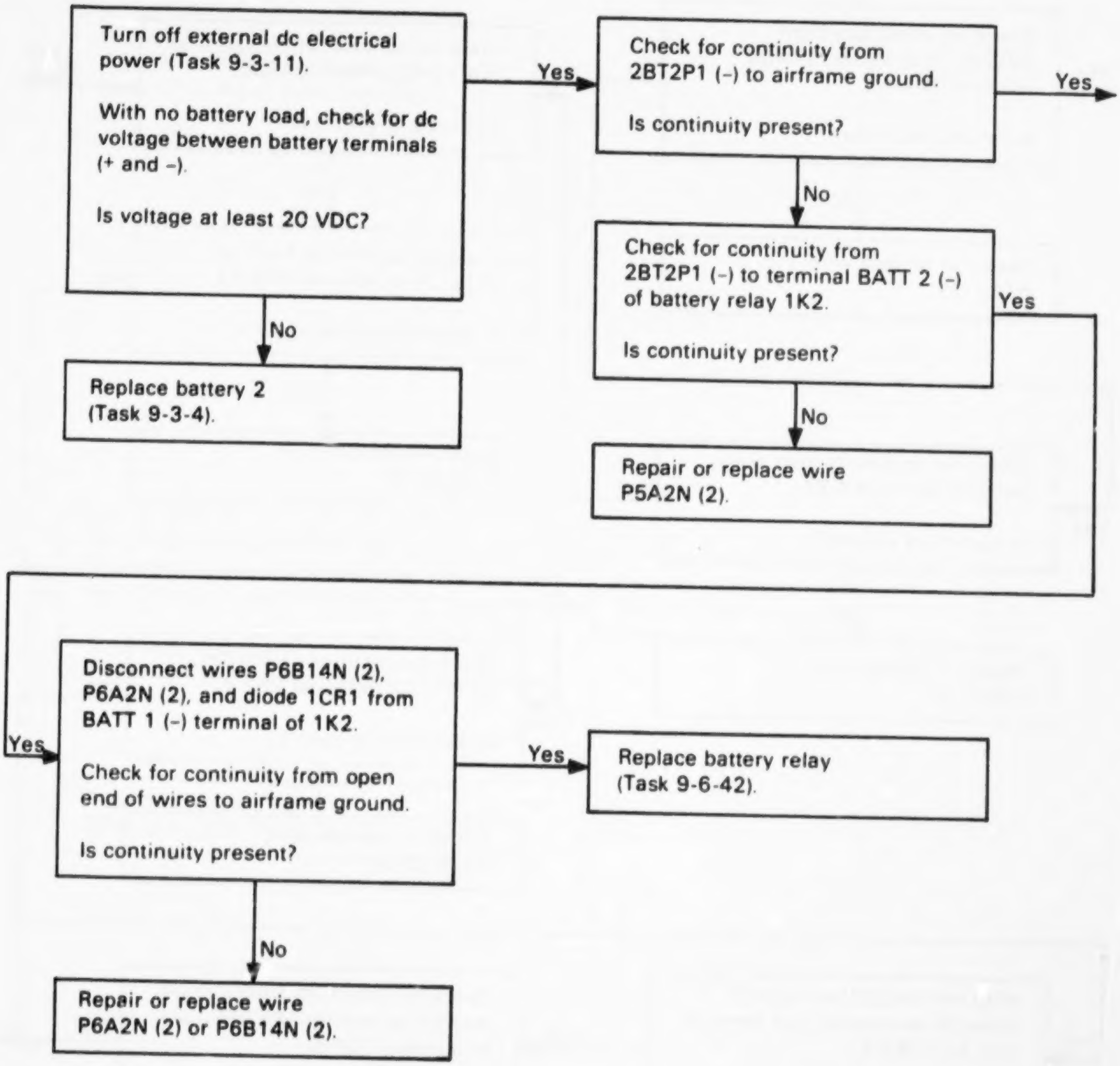

2BT1
BATTERY 1
J2
2BT1P2
GROUND
1
P93A22N (2)
2CB9
9TH CELL
BATT 1/2 VOLT
9
P76A22 (2)
5
P77A22 (2)
2DS1
BATTERY 1
PREHEAT LAMP
P77B22 (2)
1
R
3
P79A22N (2)
P77C22 (2)
2DS2
BATTERY 2
PREHEAT LAMP
P77C22 (2)
1
R
3
P80A22N (2)

406475-59B

16. BATTERY 2 PREHEAT LIGHT COMES ON AT A TEMPERATURE ABOVE -10°F

Replace battery 2
(Task 9-3-4).

17. BATTERY 2 WILL NOT COME ON (BATT 2 SWITCH IS SET TO BATT 2)



Turn off external dc electrical power (Task 9-3-11).

With no battery load, check for dc voltage between battery terminals (+ and –).

Is voltage at least 20 VDC?

Replace battery 2 (Task 9-3-4).

Check for continuity from 2BT2P1 (–) to airframe ground.

Is continuity present?

Check for continuity from 2BT2P1 (–) to terminal BATT 2 (–) of battery relay 1K2.

Is continuity present?

Repair or replace wire P5A2N (2).

Disconnect wires P6B14N (2), P6A2N (2), and diode 1CR1 from BATT 1 (–) terminal of 1K2.

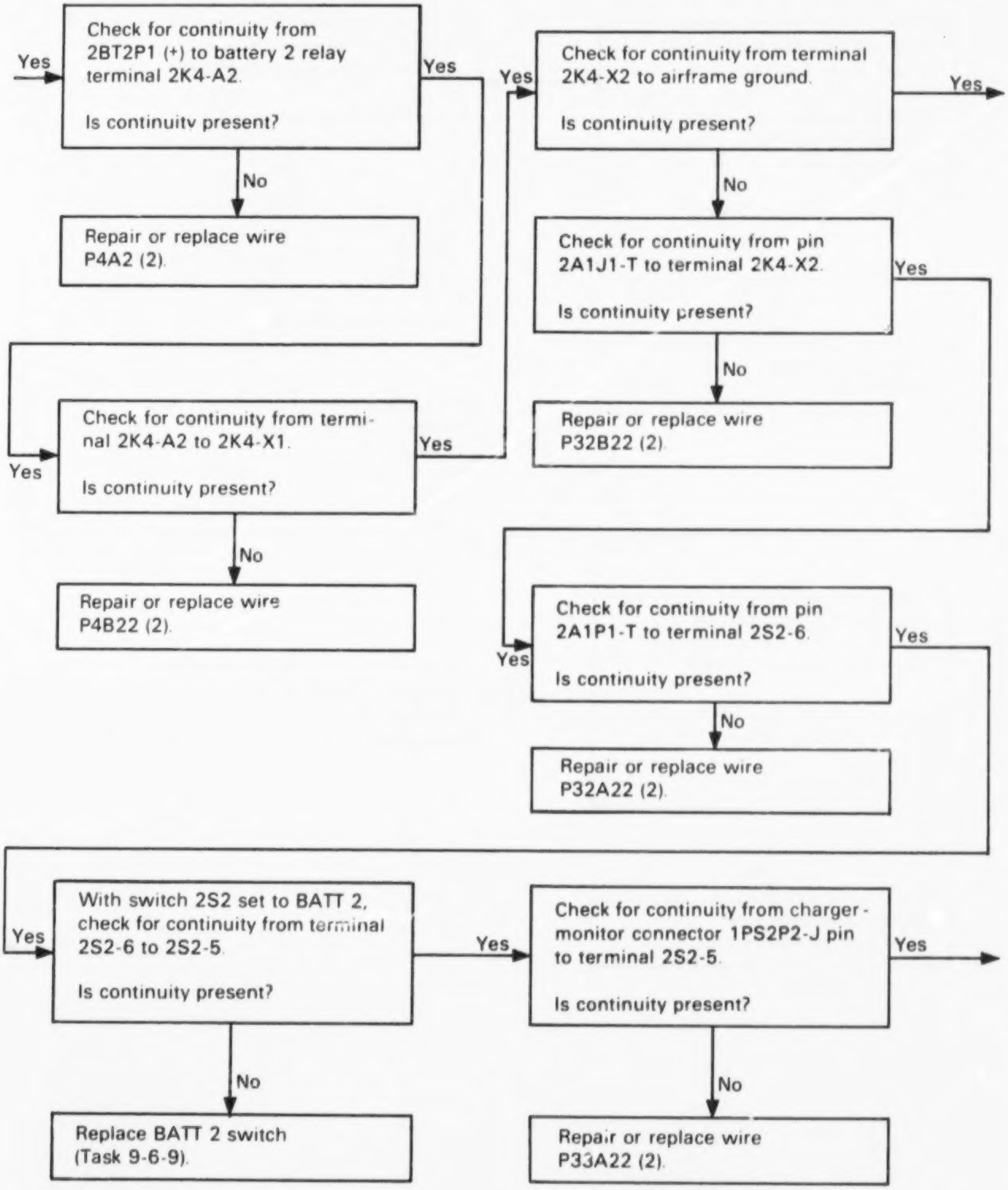
Check for continuity from open end of wires to airframe ground.

Is continuity present?

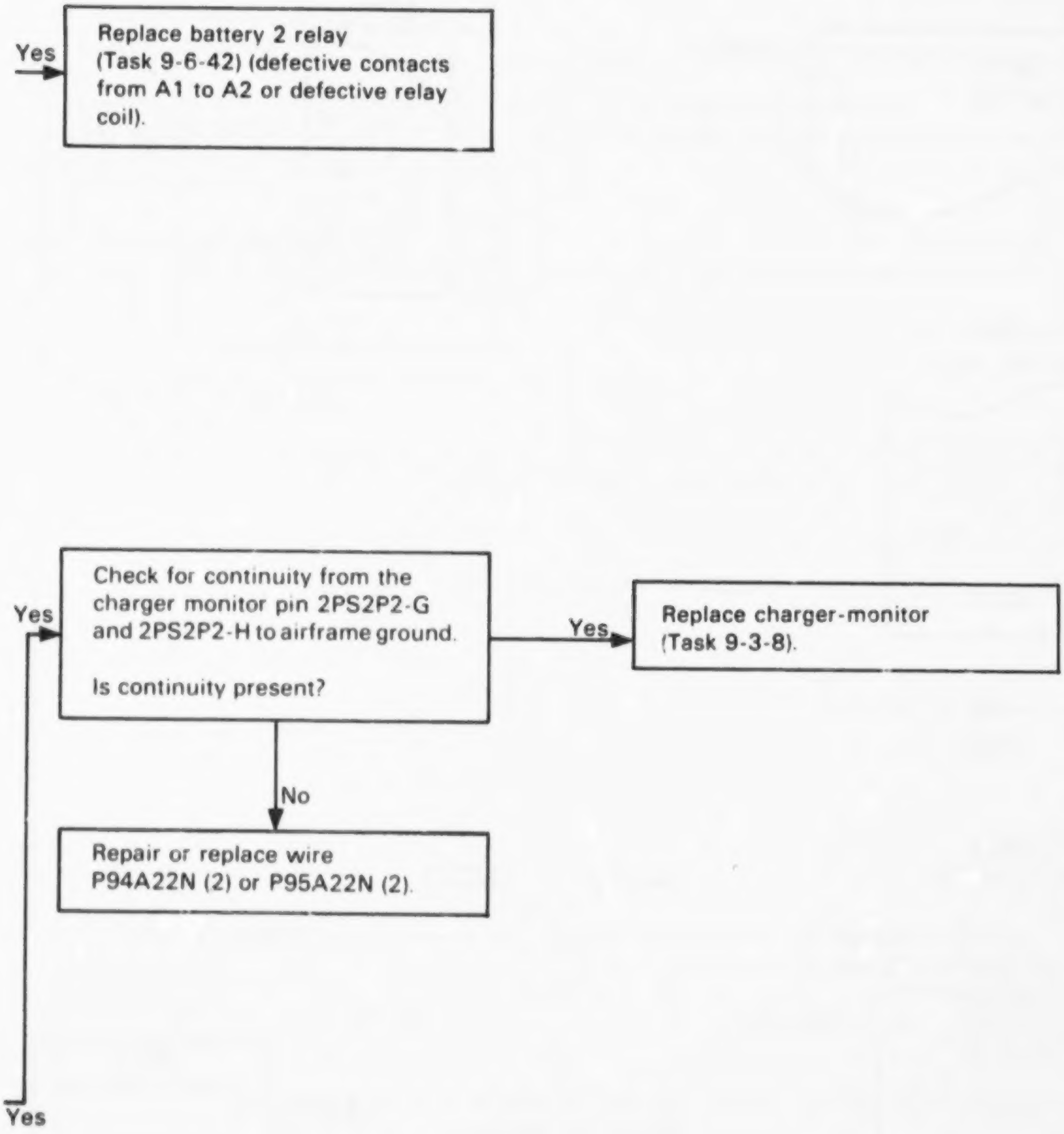
Replace battery relay (Task 9-6-42).

Repair or replace wire P6A2N (2) or P6B14N (2).

17. BATTERY 2 WILL NOT COME ON (BATT 2 SWITCH IS SET TO BATT 2) (CONT)


Yes
Check for continuity from 2BT2P1 (+) to battery 2 relay terminal 2K4-A2.
Is continuity present?
Yes
No
Repair or replace wire P4A2 (2).
Yes
Check for continuity from terminal 2K4-A2 to 2K4-X1.
Is continuity present?
Yes
No
Repair or replace wire P4B22 (2).
Yes
Check for continuity from terminal 2K4-X2 to airframe ground.
Is continuity present?
Yes
No
Check for continuity from pin 2A1J1-T to terminal 2K4-X2.
Is continuity present?
Yes
No
Repair or replace wire P32B22 (2).
Yes
Check for continuity from pin 2A1P1-T to terminal 2S2-6.
Is continuity present?
Yes
No
Repair or replace wire P32A22 (2).
Yes
With switch 2S2 set to BATT 2, check for continuity from terminal 2S2-6 to 2S2-5.
Is continuity present?
Yes
No
Replace BATT 2 switch (Task 9-6-9).
Check for continuity from charger-monitor connector 1PS2P2-J pin to terminal 2S2-5.
Is continuity present?
Yes
No
Repair or replace wire P33A22 (2).

17. BATTERY 2 WILL NOT COME ON (BATT 2 SWITCH IS SET TO BATT 2) (CONT)



Replace battery 2 relay (Task 9-6-42) (defective contacts from A1 to A2 or defective relay coil).

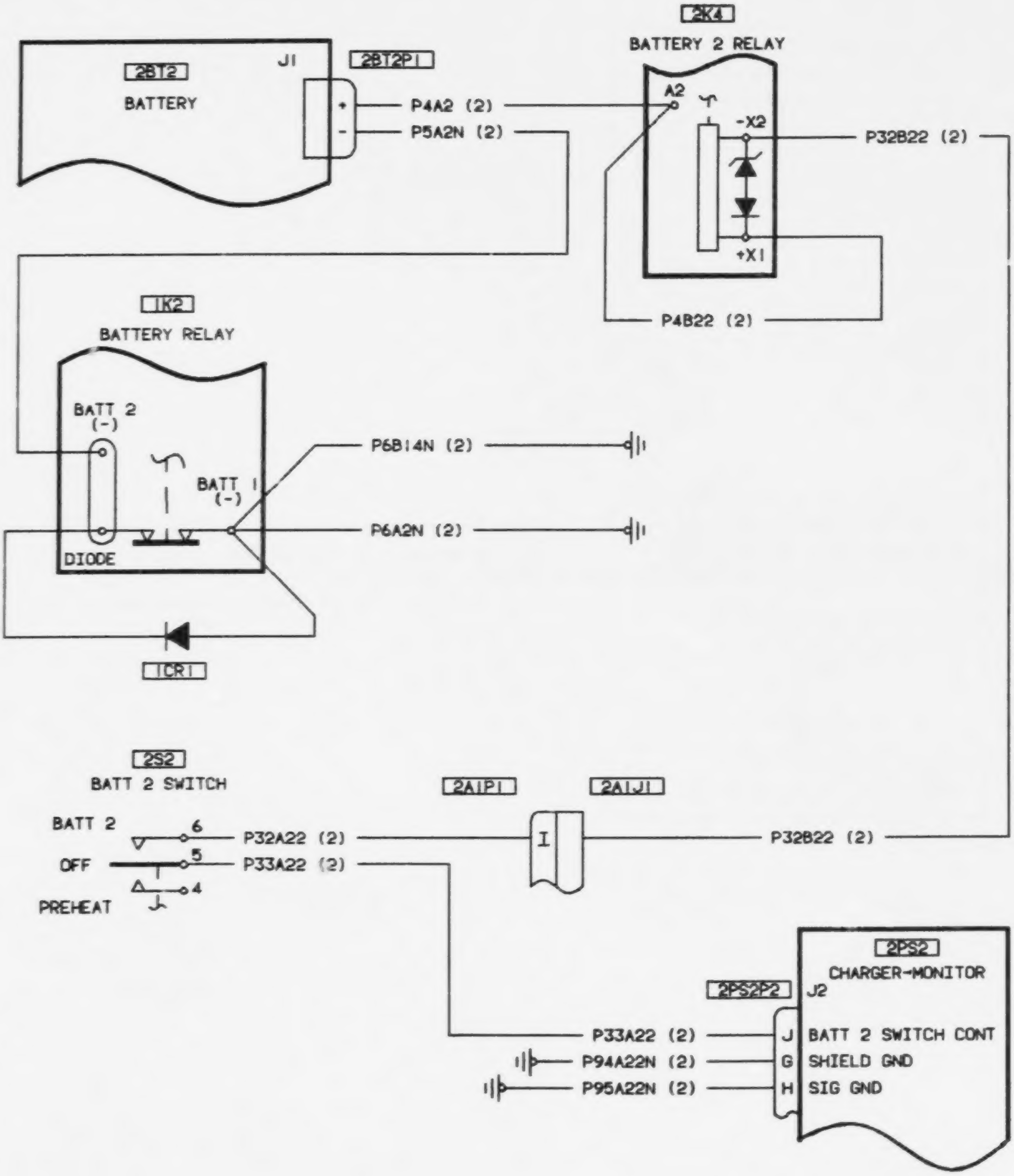
Check for continuity from the charger monitor pin 2PS2P2-G and 2PS2P2-H to airframe ground.

Is continuity present?

Replace charger-monitor (Task 9-3-8).

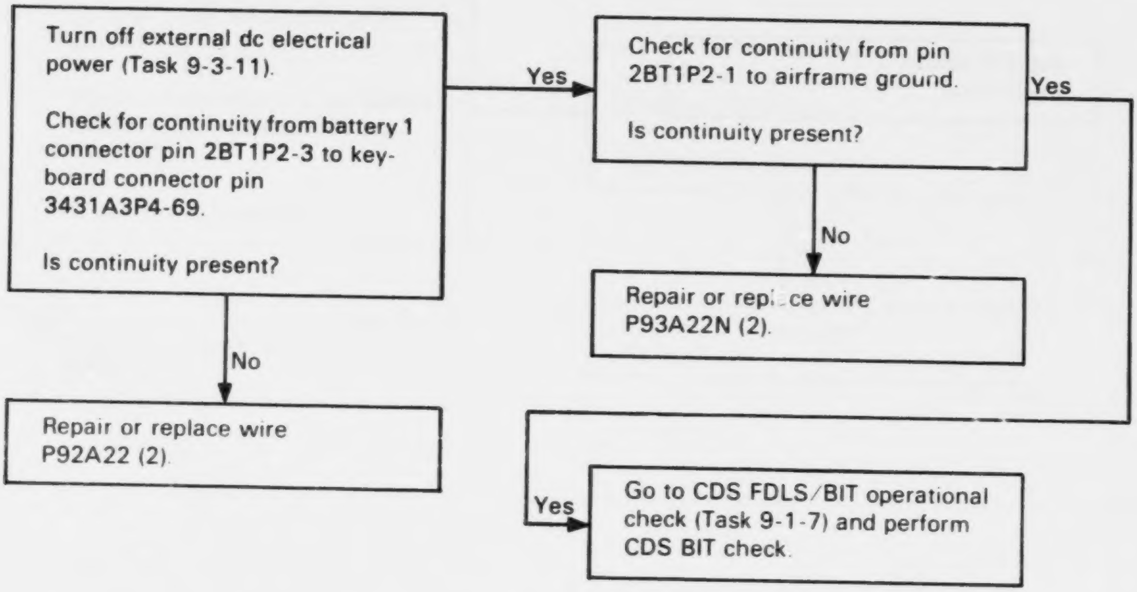
Repair or replace wire P94A22N (2) or P95A22N (2).

17. BATTERY 2 WILL NOT COME ON (BATT 2 SWITCH IS SET TO BATT 2) (CONT)


2BT2
BATTERY
J1
2BT2P1
+
-
P4A2 (2)
P5A2N (2)
2K4
BATTERY 2 RELAY
A2
-X2
+X1
P32B22 (2)
P4B22 (2)
1K2
BATTERY RELAY
BATT 2 (-)
BATT 1 (-)
DIODE
P6B14N (2)
P6A2N (2)
1CR1
2S2
BATT 2 SWITCH
BATT 2
OFF
PREHEAT
6
5
4
P32A22 (2)
P33A22 (2)
2A1P1
2A1J1
I
P32B22 (2)
2PS2
CHARGER-MONITOR
2PS2P2
J2
P33A22 (2)
P94A22N (2)
P95A22N (2)
J
G
H
BATT 2 SWITCH CONT
SHIELD GND
SIG GND

406475-68A

18. BATT PREHEAT ON NOT DISPLAYED ON MFD (EXTERNAL POWER ON AND JUMPER BETWEEN PINS 1 & 3 OF CONNECTOR 2BT1P2)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery 1 connector pin 2BT1P2-3 to keyboard connector pin 3431A3P4-69.

Is continuity present?

No: Repair or replace wire P92A22 (2).

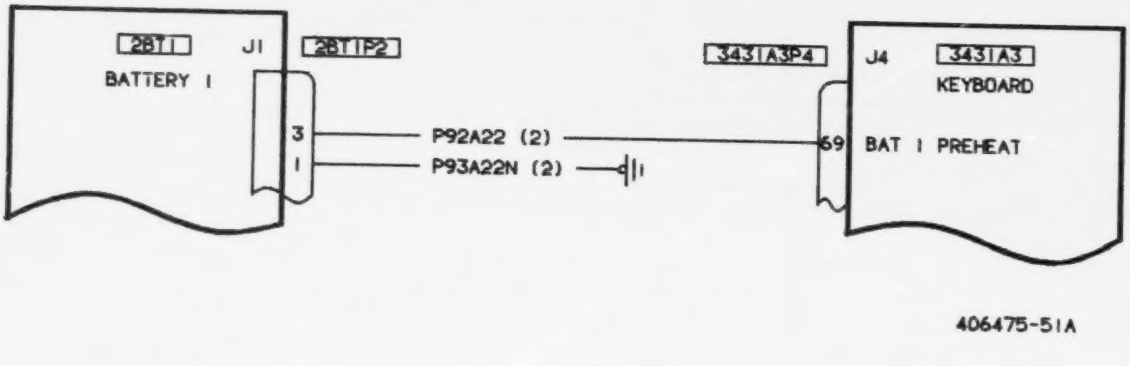
Yes: Check for continuity from pin 2BT1P2-1 to airframe ground.

Is continuity present?

No: Repair or replace wire P93A22N (2).

Yes: Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Yes
No
Yes
No
Yes

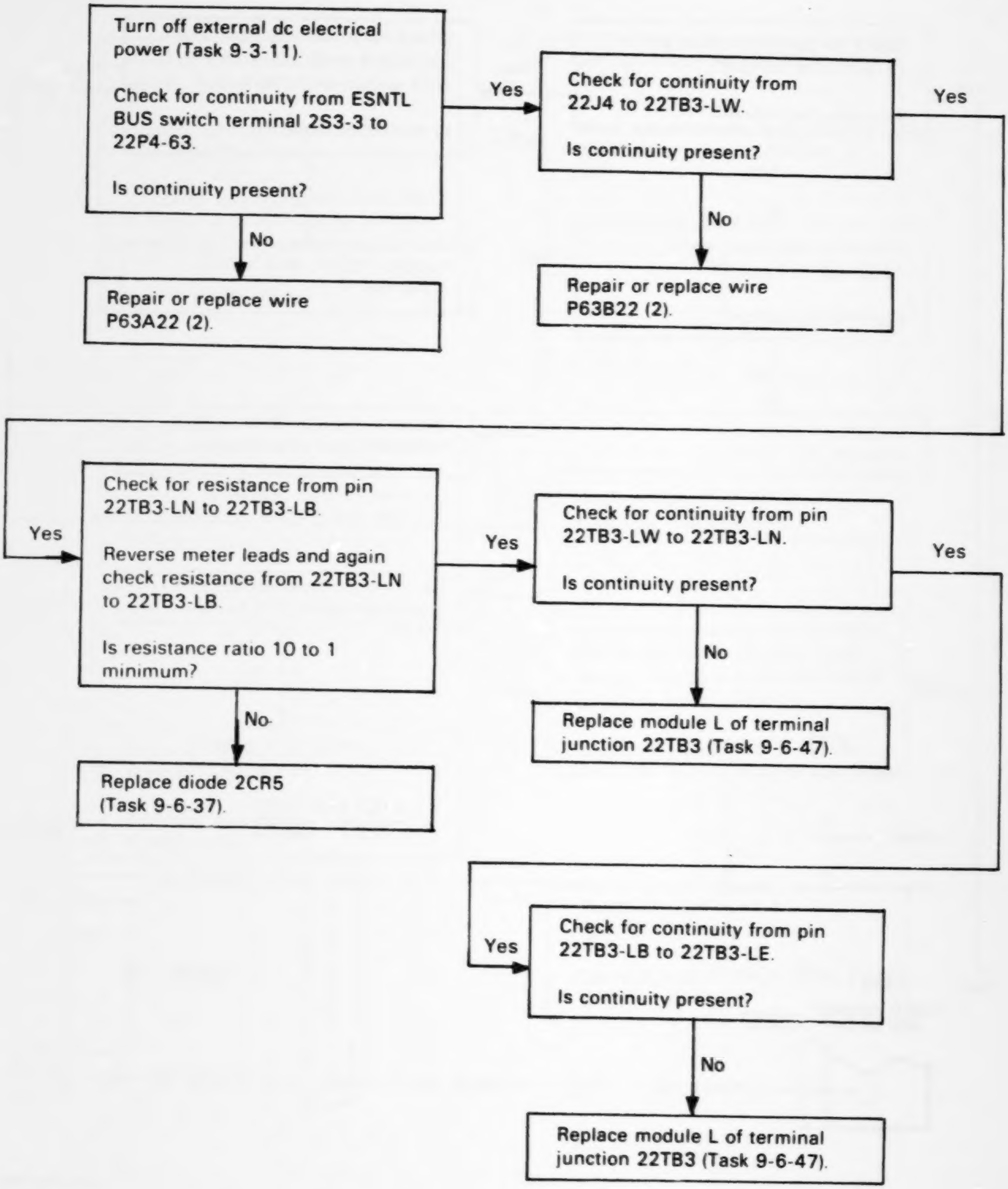

2BT1
BATTERY 1
J1
2BT1P2
3
1
P92A22 (2)
P93A22N (2)
3431A3P4
J4
3431A3
KEYBOARD
69
BAT 1 PREHEAT

406475-51A

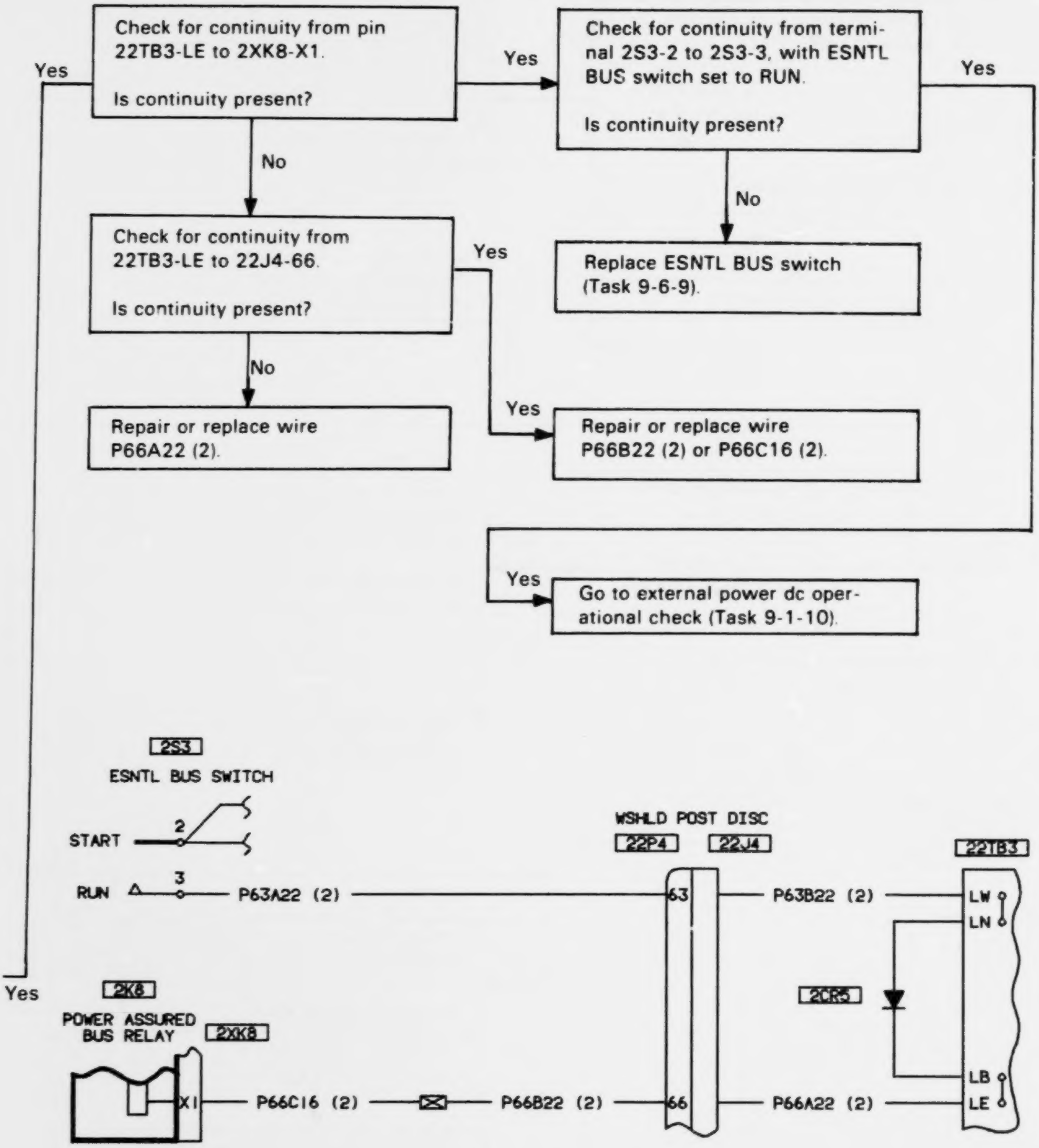
19. BATTERY VOLTAGE NOT FOUND AT 2BT2P2-15

Replace battery 2
(Task 9-3-4).

20. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (BATT 1 SWITCH SET TO BATT 1)


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from ESNTL BUS switch terminal 2S3-3 to 22P4-63.
Is continuity present?
Yes
No
Repair or replace wire P63A22 (2).
Check for continuity from 22J4 to 22TB3-LW.
Is continuity present?
Yes
No
Repair or replace wire P63B22 (2).
Yes
Check for resistance from pin 22TB3-LN to 22TB3-LB.
Reverse meter leads and again check resistance from 22TB3-LN to 22TB3-LB.
Is resistance ratio 10 to 1 minimum?
Yes
No
Replace diode 2CR5 (Task 9-6-37).
Check for continuity from pin 22TB3-LW to 22TB3-LN.
Is continuity present?
Yes
No
Replace module L of terminal junction 22TB3 (Task 9-6-47).
Yes
Check for continuity from pin 22TB3-LB to 22TB3-LE.
Is continuity present?
No
Replace module L of terminal junction 22TB3 (Task 9-6-47).

20. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (BATT 1 SWITCH SET TO BATT 1) (CONT)


Check for continuity from pin 22TB3-LE to 2XK8-X1.

Is continuity present?

Check for continuity from terminal 2S3-2 to 2S3-3, with ESNTL BUS switch set to RUN.

Is continuity present?

Check for continuity from 22TB3-LE to 22J4-66.

Is continuity present?

Replace ESNTL BUS switch (Task 9-6-9).

Repair or replace wire P66A22 (2).

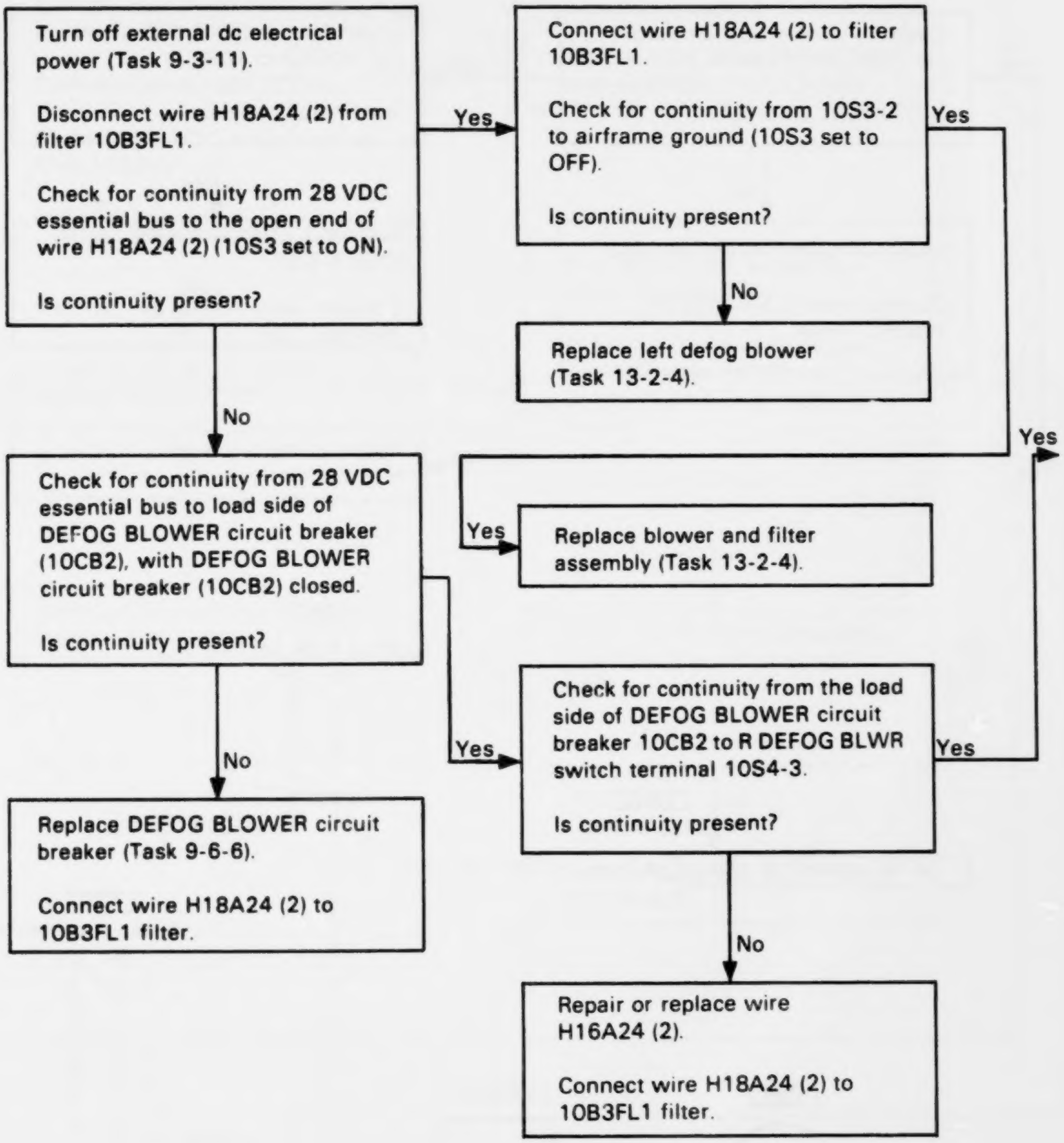
Repair or replace wire P66B22 (2) or P66C16 (2).

Go to external power dc operational check (Task 9-1-10).

Yes
Yes
No
No
Yes
No
Yes
Yes
Yes
2S3
ESNTL BUS SWITCH
START
2
RUN
3
P63A22 (2)
WSHLD POST DISC
22P4
22J4
63
P63B22 (2)
22TB3
LW
LN
2CR5
2K8
POWER ASSURED BUS RELAY
2XK8
X1
P66C16 (2)
P66B22 (2)
66
P66A22 (2)
LB
LE

406475-50A

21. LEFT DEFOG BLOWER DOES NOT OPERATE



Turn off external dc electrical power (Task 9-3-11).

Disconnect wire H18A24 (2) from filter 10B3FL1.

Check for continuity from 28 VDC essential bus to the open end of wire H18A24 (2) (10S3 set to ON).

Is continuity present?

Connect wire H18A24 (2) to filter 10B3FL1.

Check for continuity from 10S3-2 to airframe ground (10S3 set to OFF).

Is continuity present?

Replace left defog blower (Task 13-2-4).

Check for continuity from 28 VDC essential bus to load side of DEFOG BLOWER circuit breaker (10CB2), with DEFOG BLOWER circuit breaker (10CB2) closed.

Is continuity present?

Replace blower and filter assembly (Task 13-2-4).

Check for continuity from the load side of DEFOG BLOWER circuit breaker 10CB2 to R DEFOG BLWR switch terminal 10S4-3.

Is continuity present?

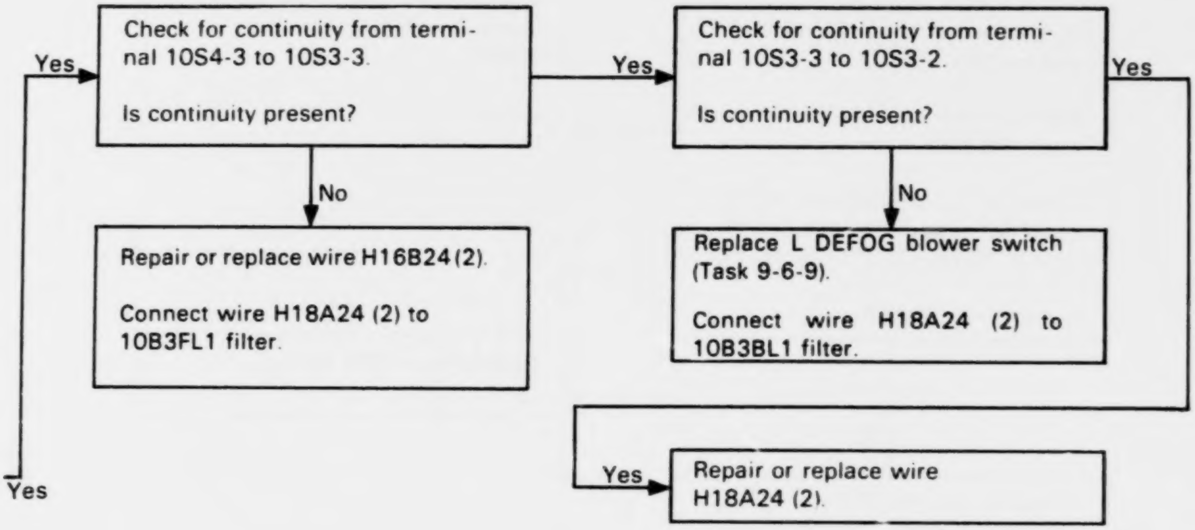
Replace DEFOG BLOWER circuit breaker (Task 9-6-6).

Connect wire H18A24 (2) to 10B3FL1 filter.

Repair or replace wire H16A24 (2).

Connect wire H18A24 (2) to 10B3FL1 filter.

21. LEFT DEFOG BLOWER DOES NOT OPERATE (CONT)



Check for continuity from terminal 10S4-3 to 10S3-3.

Is continuity present?

Repair or replace wire H16B24(2).

Connect wire H18A24 (2) to 10B3FL1 filter.

Check for continuity from terminal 10S3-3 to 10S3-2.

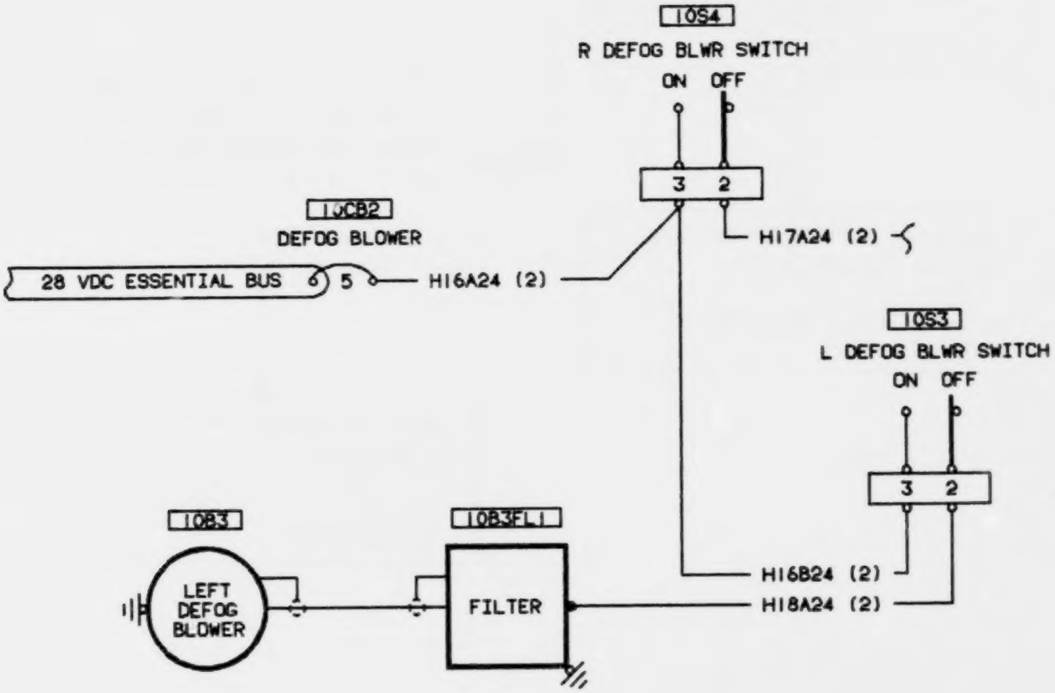
Is continuity present?

Replace L DEFOG blower switch (Task 9-6-9).

Connect wire H18A24 (2) to 10B3BL1 filter.

Repair or replace wire H18A24 (2).

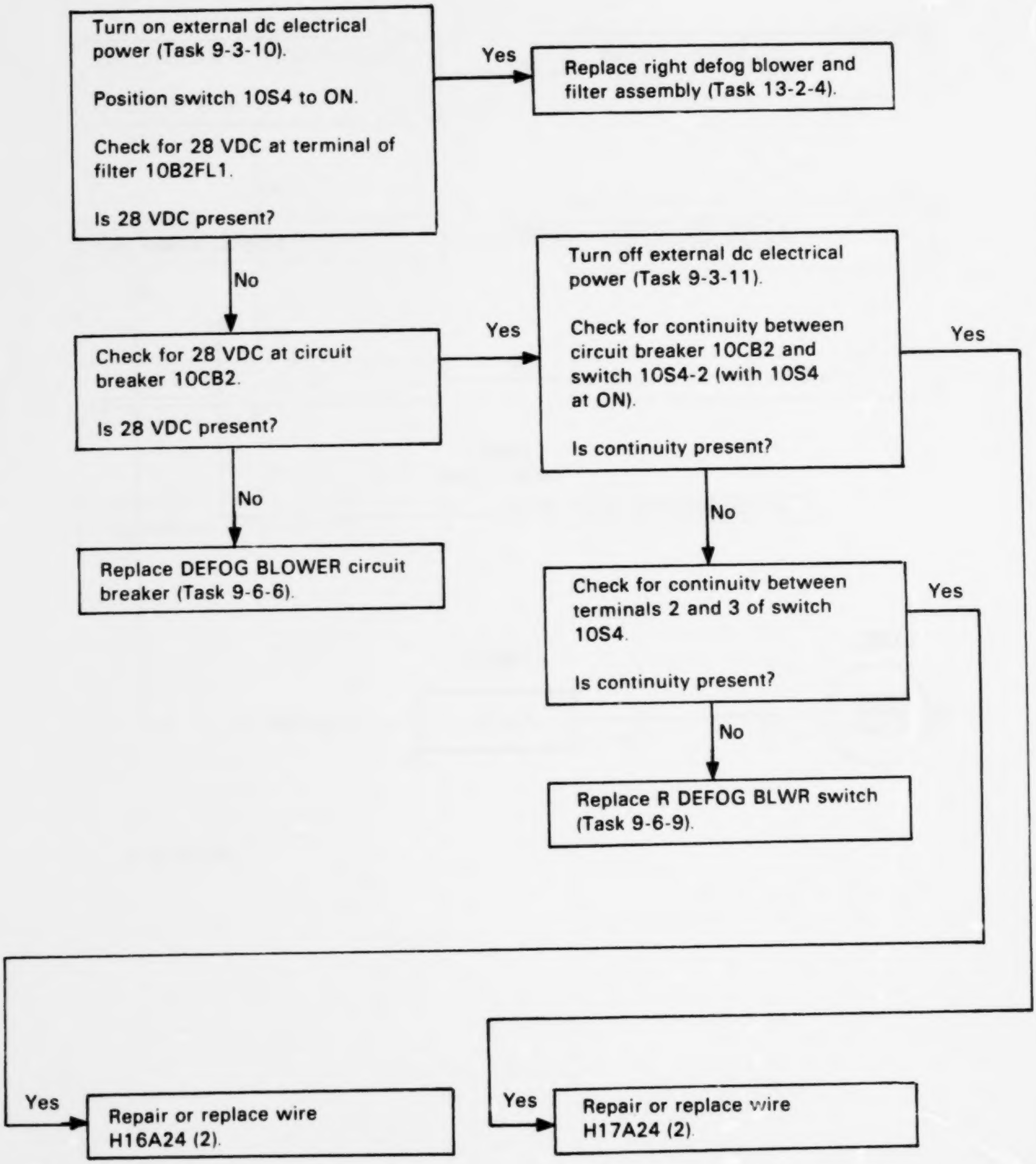
Yes
Yes
No
Yes
No
Yes
Yes
Yes



10S4
R DEFOG BLWR SWITCH
ON
OFF
3
2
10CB2
DEFOG BLOWER
28 VDC ESSENTIAL BUS
5
H16A24 (2)
H17A24 (2)
10S3
L DEFOG BLWR SWITCH
ON
OFF
3
2
10B3
LEFT DEFOG BLOWER
10B3FL1
FILTER
H16B24 (2)
H18A24 (2)

406475-538

22. RIGHT DEFOG BLOWER DOES NOT OPERATE (DURING BATTERY NO. 1)



Turn on external dc electrical power (Task 9-3-10).

Position switch 10S4 to ON.

Check for 28 VDC at terminal of filter 10B2FL1.

Is 28 VDC present?

Replace right defog blower and filter assembly (Task 13-2-4).

Check for 28 VDC at circuit breaker 10CB2.

Is 28 VDC present?

Replace DEFOG BLOWER circuit breaker (Task 9-6-6).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity between circuit breaker 10CB2 and switch 10S4-2 (with 10S4 at ON).

Is continuity present?

Check for continuity between terminals 2 and 3 of switch 10S4.

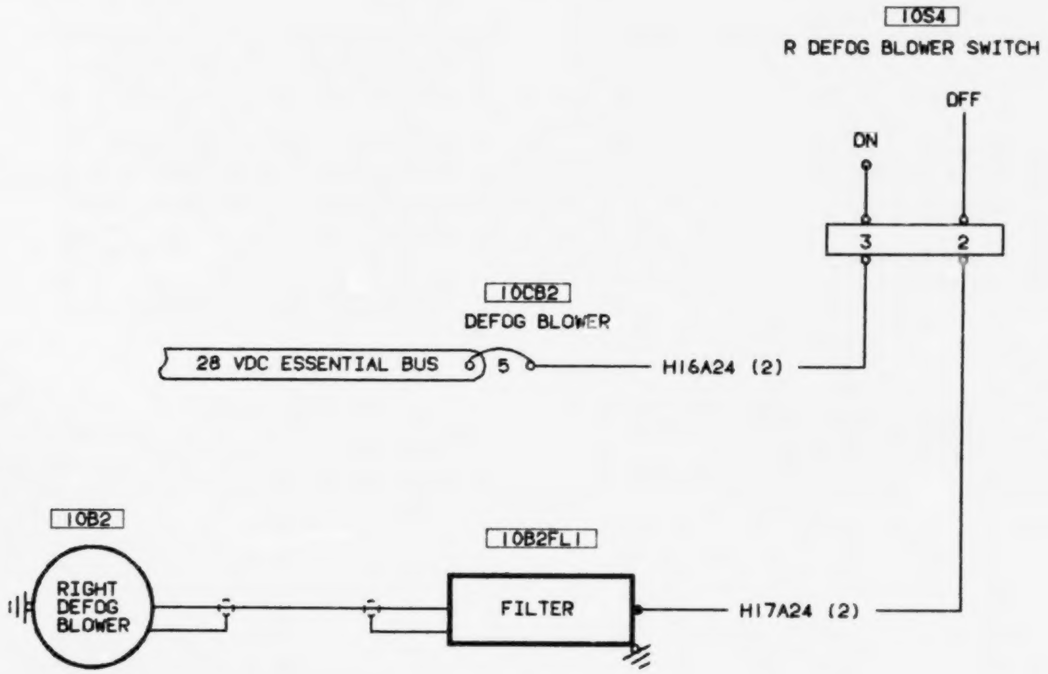
Is continuity present?

Replace R DEFOG BLWR switch (Task 9-6-9).

Repair or replace wire H16A24 (2).

Repair or replace wire H17A24 (2).

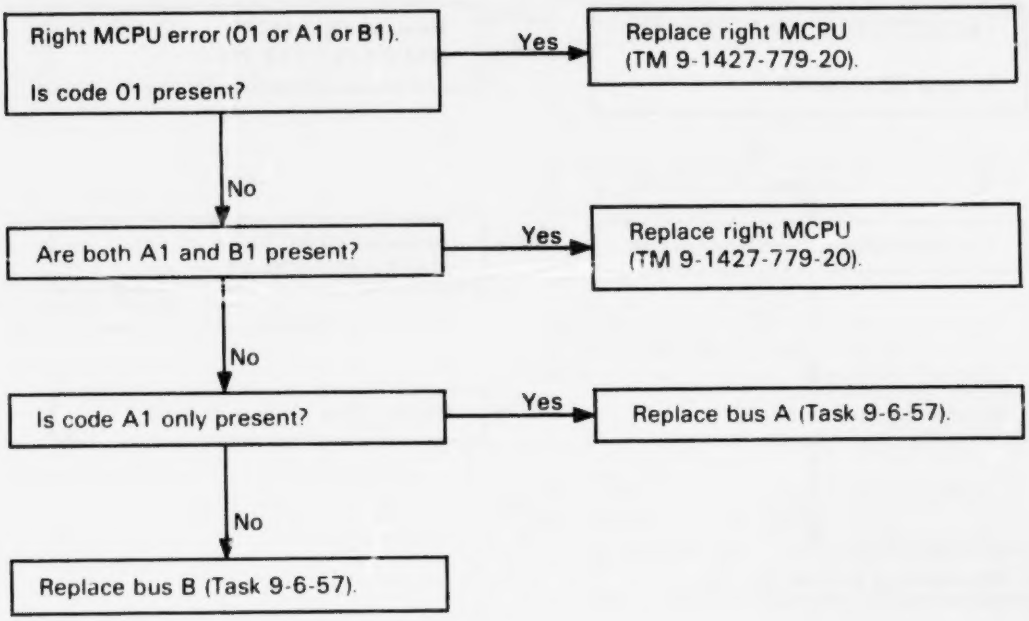
22. RIGHT DEFOG BLOWER DOES NOT OPERATE (DURING BATTERY NO. 1) (CONT)


10S4
R DEFOG BLOWER SWITCH
OFF
ON
3
2
10CB2
DEFOG BLOWER
28 VDC ESSENTIAL BUS
5
H16A24 (2)
10B2
RIGHT DEFOG BLOWER
10B2FL1
FILTER
H17A24 (2)

406475-211A

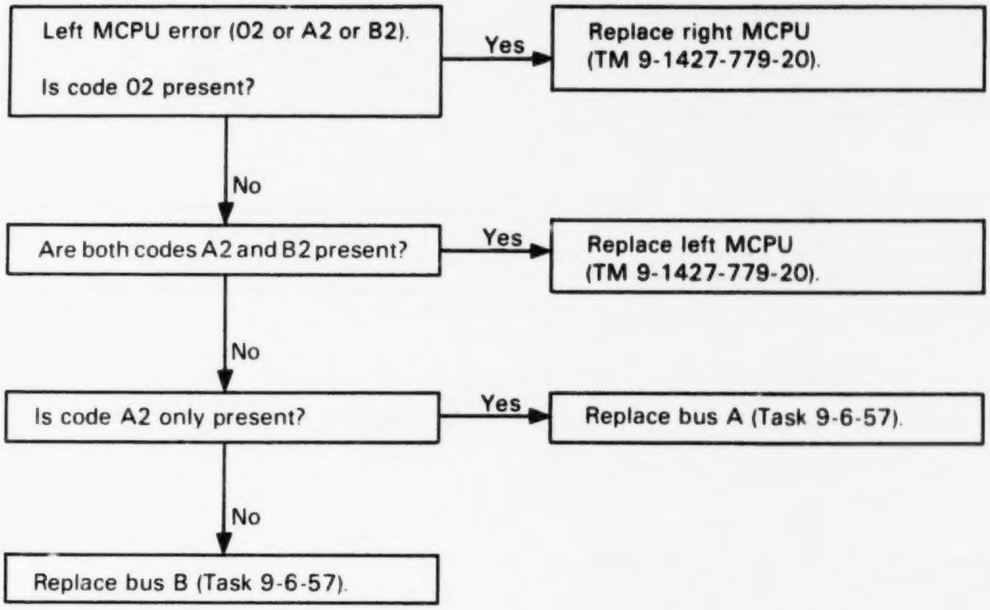
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS

A.


Right MCPU error (01 or A1 or B1).
Is code 01 present?
Yes
Replace right MCPU (TM 9-1427-779-20).
No
Are both A1 and B1 present?
Yes
Replace right MCPU (TM 9-1427-779-20).
No
Is code A1 only present?
Yes
Replace bus A (Task 9-6-57).
No
Replace bus B (Task 9-6-57).

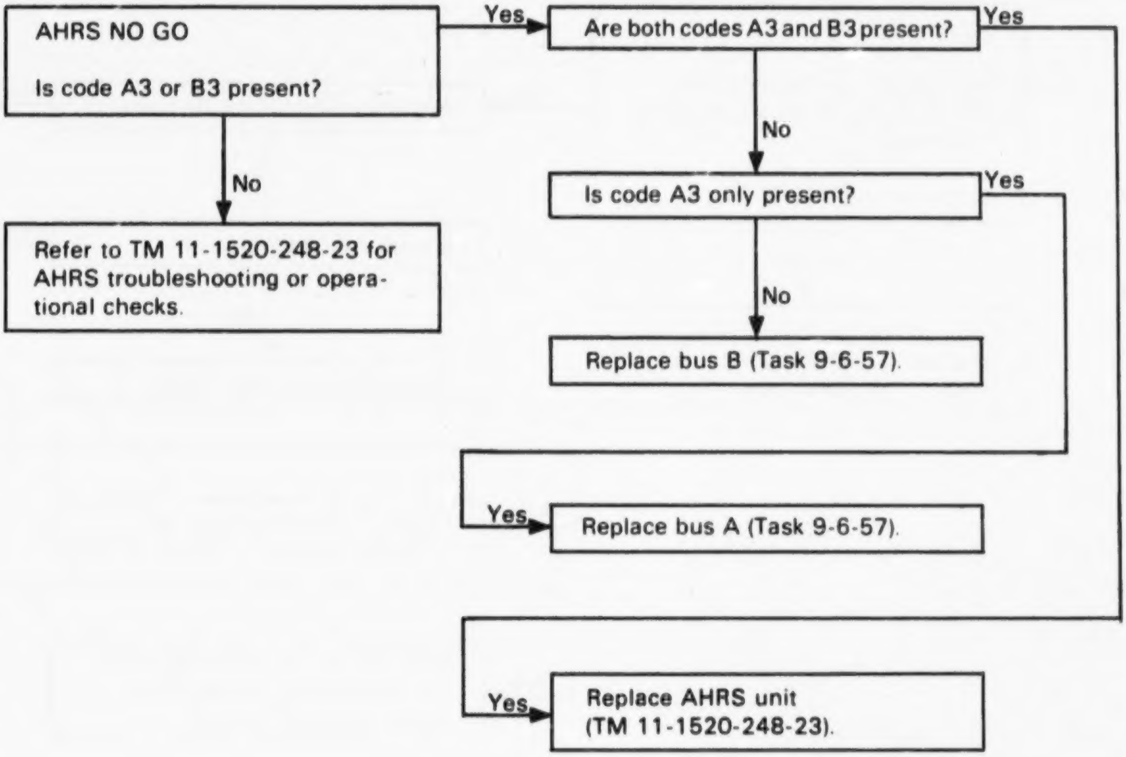
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

B.


Left MCPU error (02 or A2 or B2).
Is code 02 present?
Yes
Replace right MCPU (TM 9-1427-779-20).
No
Are both codes A2 and B2 present?
Yes
Replace left MCPU (TM 9-1427-779-20).
No
Is code A2 only present?
Yes
Replace bus A (Task 9-6-57).
No
Replace bus B (Task 9-6-57).

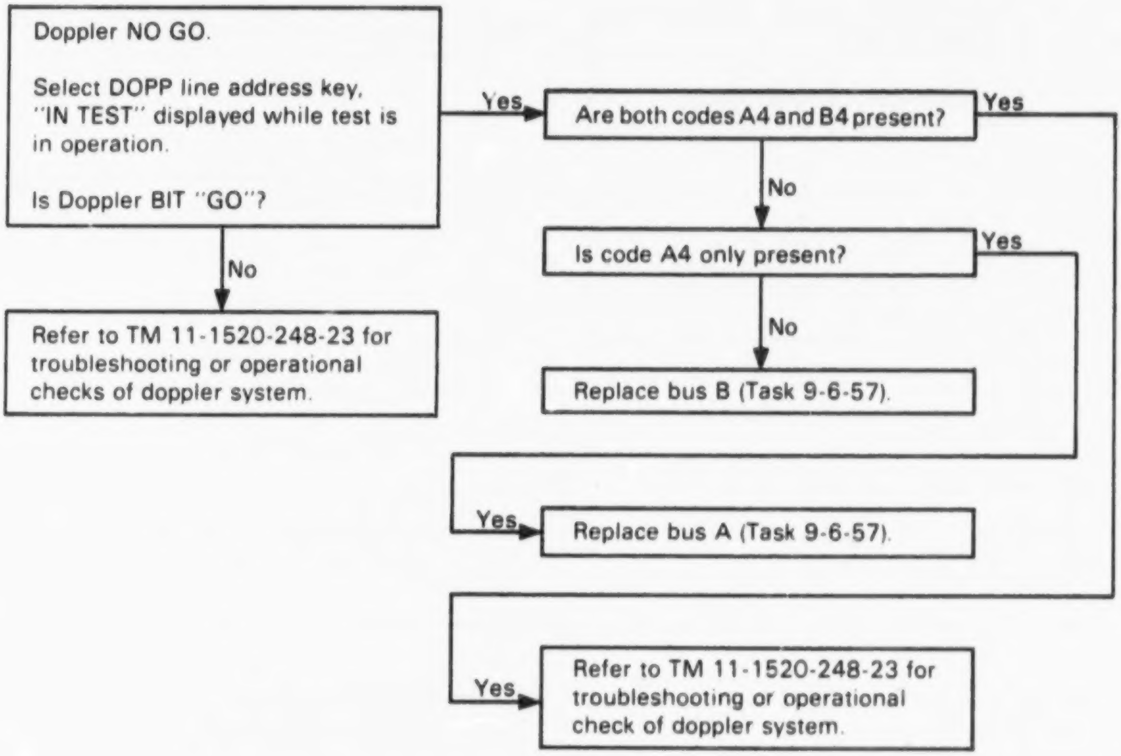
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

C.


AHRS NO GO
Is code A3 or B3 present?
Yes
No
Refer to TM 11-1520-248-23 for AHRS troubleshooting or operational checks.
Are both codes A3 and B3 present?
Yes
No
Is code A3 only present?
Yes
No
Replace bus B (Task 9-6-57).
Yes
Replace bus A (Task 9-6-57).
Yes
Replace AHRS unit (TM 11-1520-248-23).

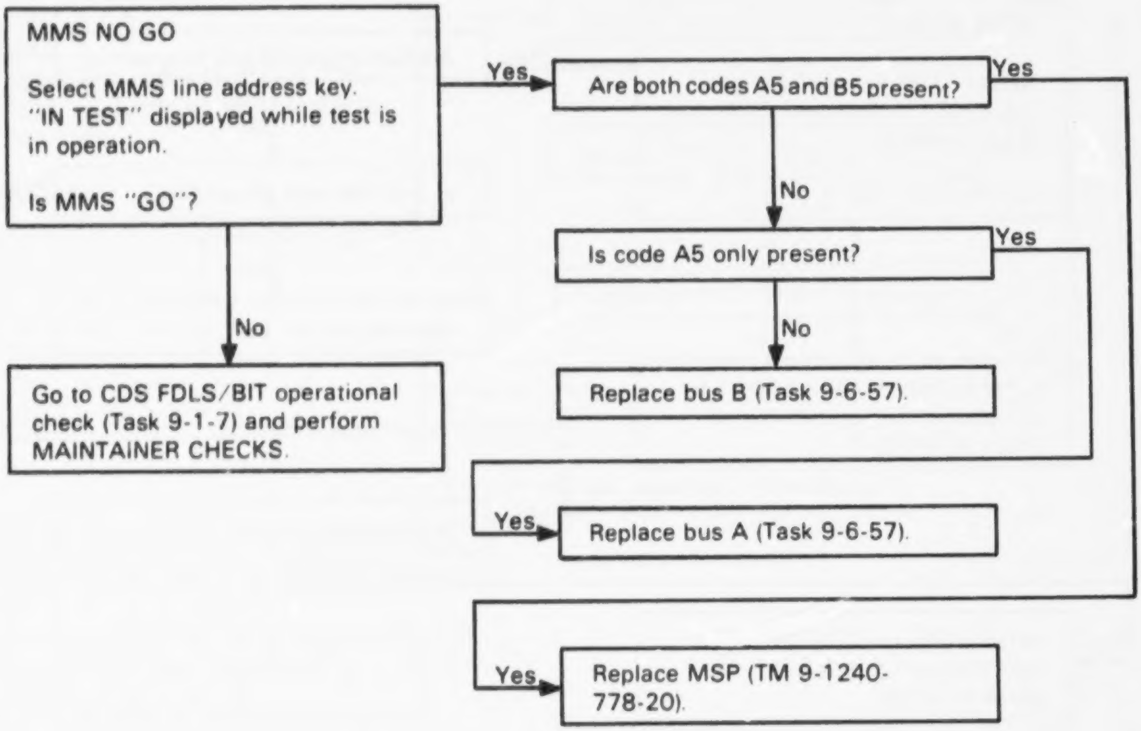
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

D.


Doppler NO GO.
Select DOPP line address key. "IN TEST" displayed while test is in operation.
Is Doppler BIT "GO"?
Yes
No
Refer to TM 11-1520-248-23 for troubleshooting or operational checks of doppler system.
Are both codes A4 and B4 present?
Yes
No
Is code A4 only present?
Yes
No
Replace bus B (Task 9-6-57).
Yes
Replace bus A (Task 9-6-57).
Yes
Refer to TM 11-1520-248-23 for troubleshooting or operational check of doppler system.

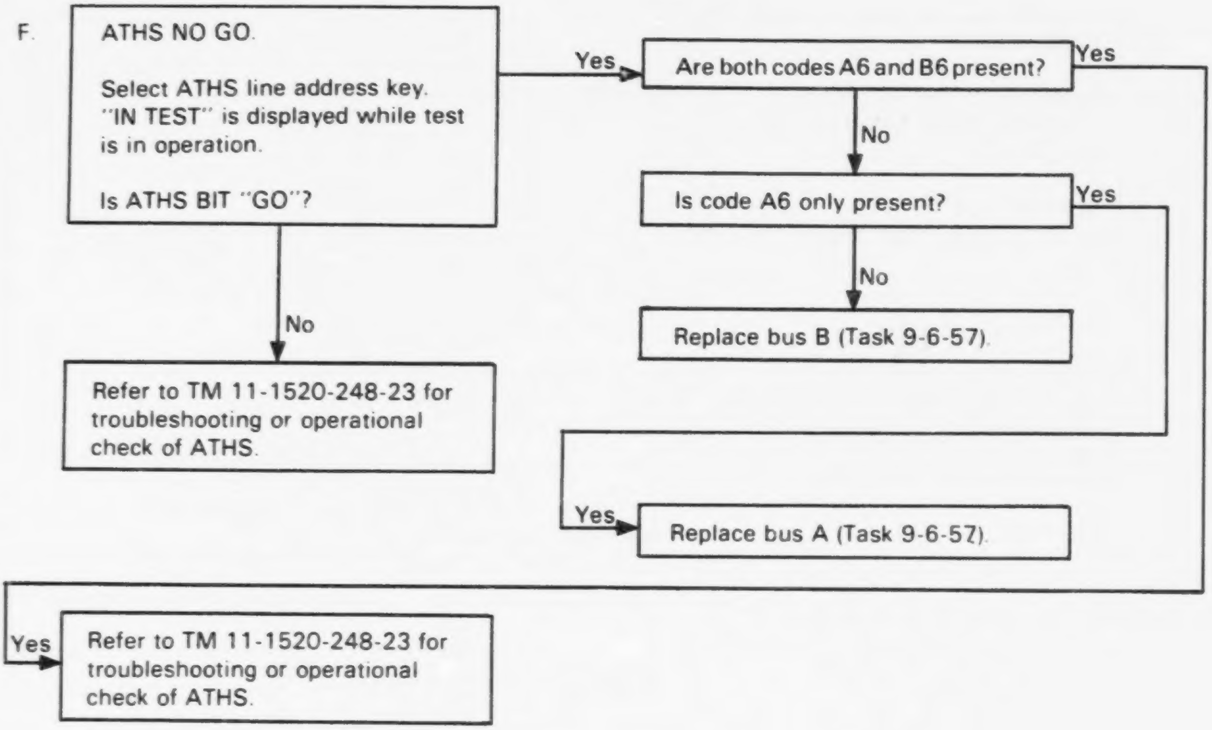
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

E.


MMS NO GO
Select MMS line address key. "IN TEST" displayed while test is in operation.
Is MMS "GO"?
Yes
Are both codes A5 and B5 present?
Yes
No
Is code A5 only present?
Yes
No
No
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform MAINTAINER CHECKS.
Replace bus B (Task 9-6-57).
Yes
Replace bus A (Task 9-6-57).
Yes
Replace MSP (TM 9-1240-778-20).

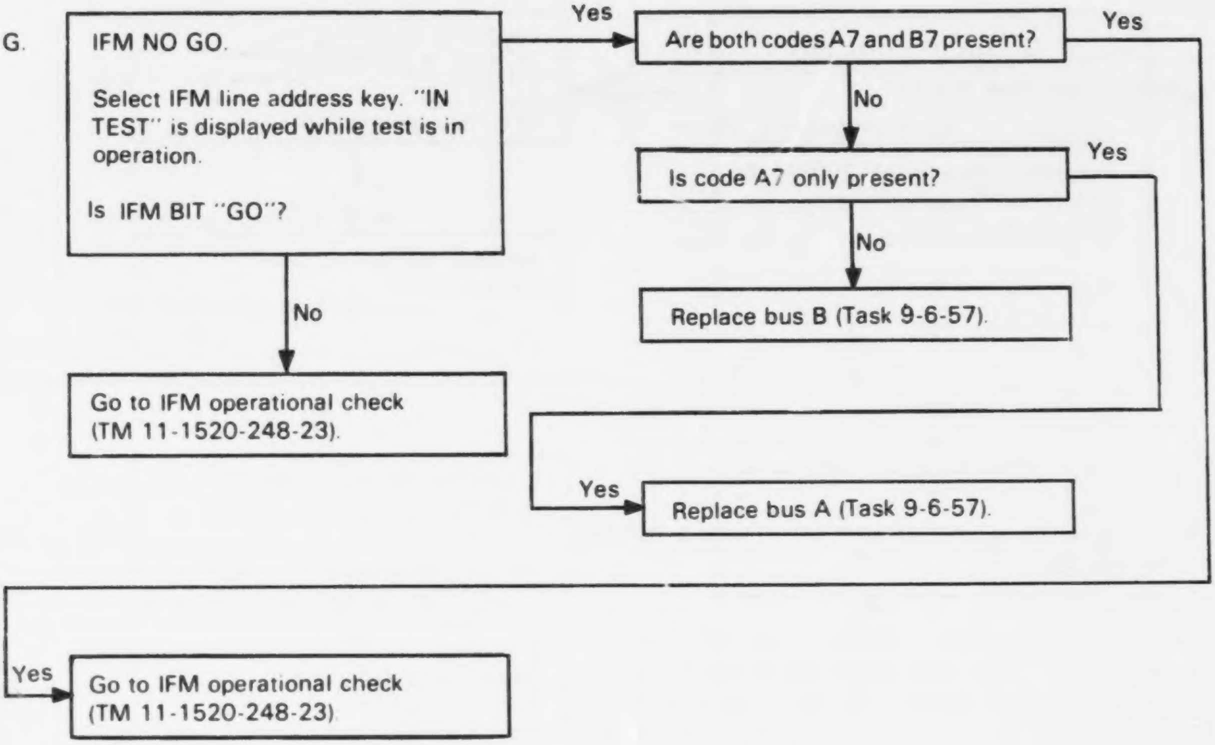
23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

F.

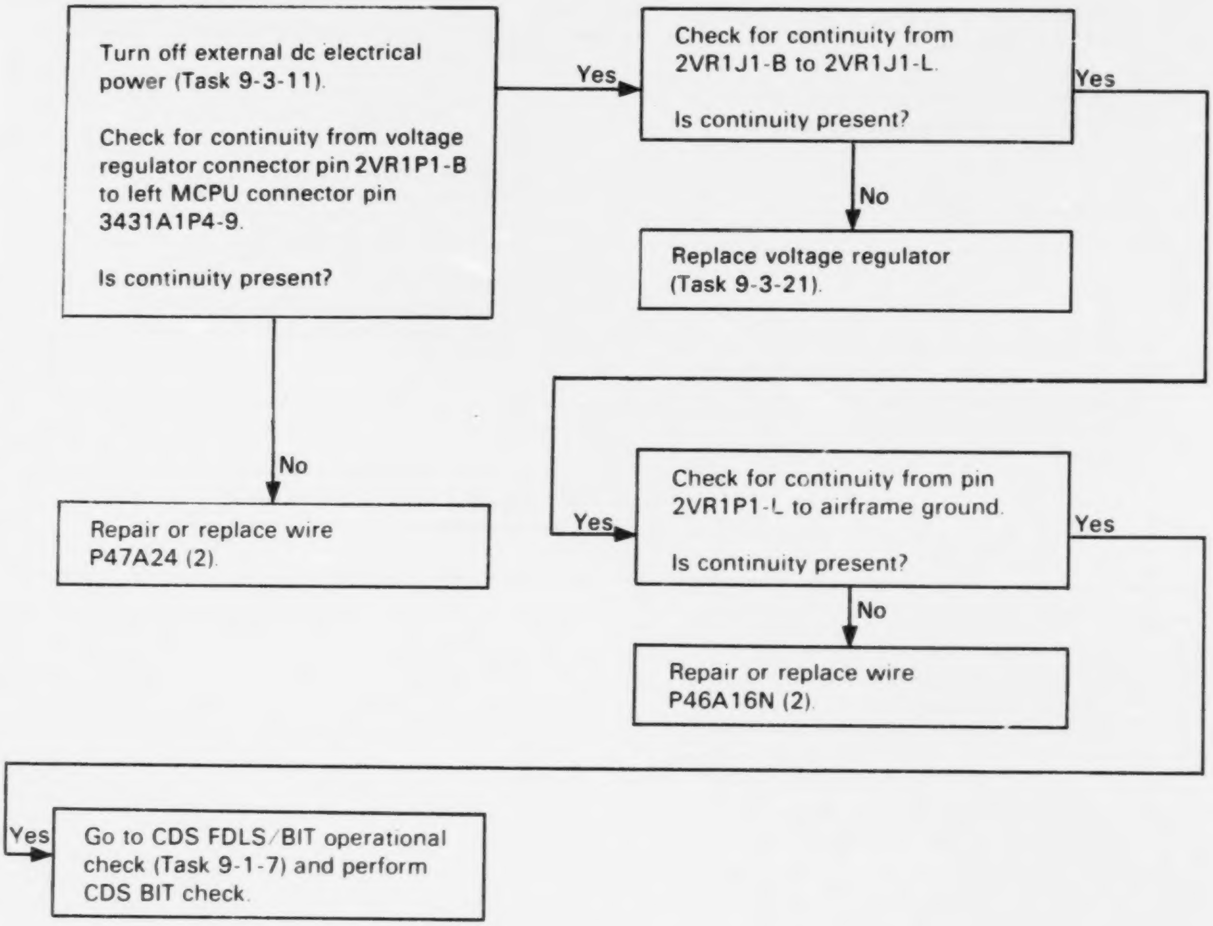

ATHS NO GO.
Select ATHS line address key. "IN TEST" is displayed while test is in operation.
Is ATHS BIT "GO"?
Yes
Are both codes A6 and B6 present?
Yes
No
Is code A6 only present?
Yes
No
Replace bus B (Task 9-6-57).
No
Refer to TM 11-1520-248-23 for troubleshooting or operational check of ATHS.
Yes
Replace bus A (Task 9-6-57).
Yes
Refer to TM 11-1520-248-23 for troubleshooting or operational check of ATHS.

23. CDS BIT PROVIDES NO GO ERROR CODES ON MFD WHEN CHECKING MUX DATA BUS (CONT)

G.


IFM NO GO.
Select IFM line address key. "IN TEST" is displayed while test is in operation.
Is IFM BIT "GO"?
Yes
Are both codes A7 and B7 present?
Yes
No
Is code A7 only present?
Yes
No
Replace bus B (Task 9-6-57).
No
Go to IFM operational check (TM 11-1520-248-23).
Yes
Replace bus A (Task 9-6-57).
Yes
Go to IFM operational check (TM 11-1520-248-23).

24. DC GEN FAIL MESSAGE NOT DISPLAYED ON MFD (DC GEN SWITCH SET TO OFF AND ENGINE RPM AT 100%)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from voltage regulator connector pin 2VR1P1-B to left MCPU connector pin 3431A1P4-9.

Is continuity present?

Check for continuity from 2VR1J1-B to 2VR1J1-L.

Is continuity present?

Replace voltage regulator (Task 9-3-21).

Repair or replace wire P47A24 (2).

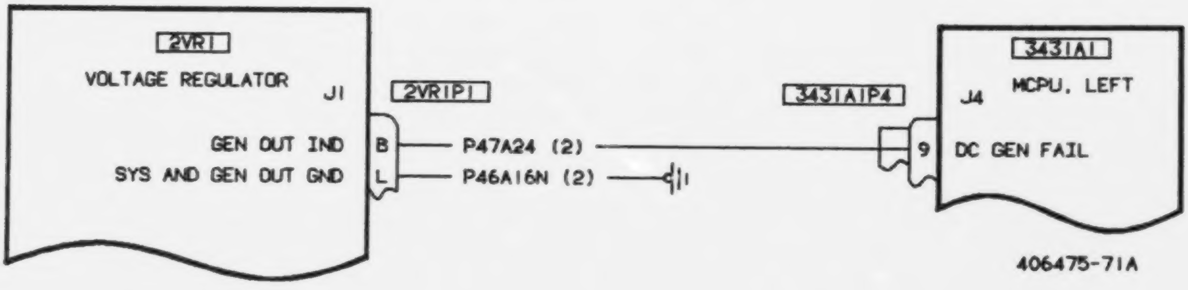
Check for continuity from pin 2VR1P1-L to airframe ground.

Is continuity present?

Repair or replace wire P46A16N (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

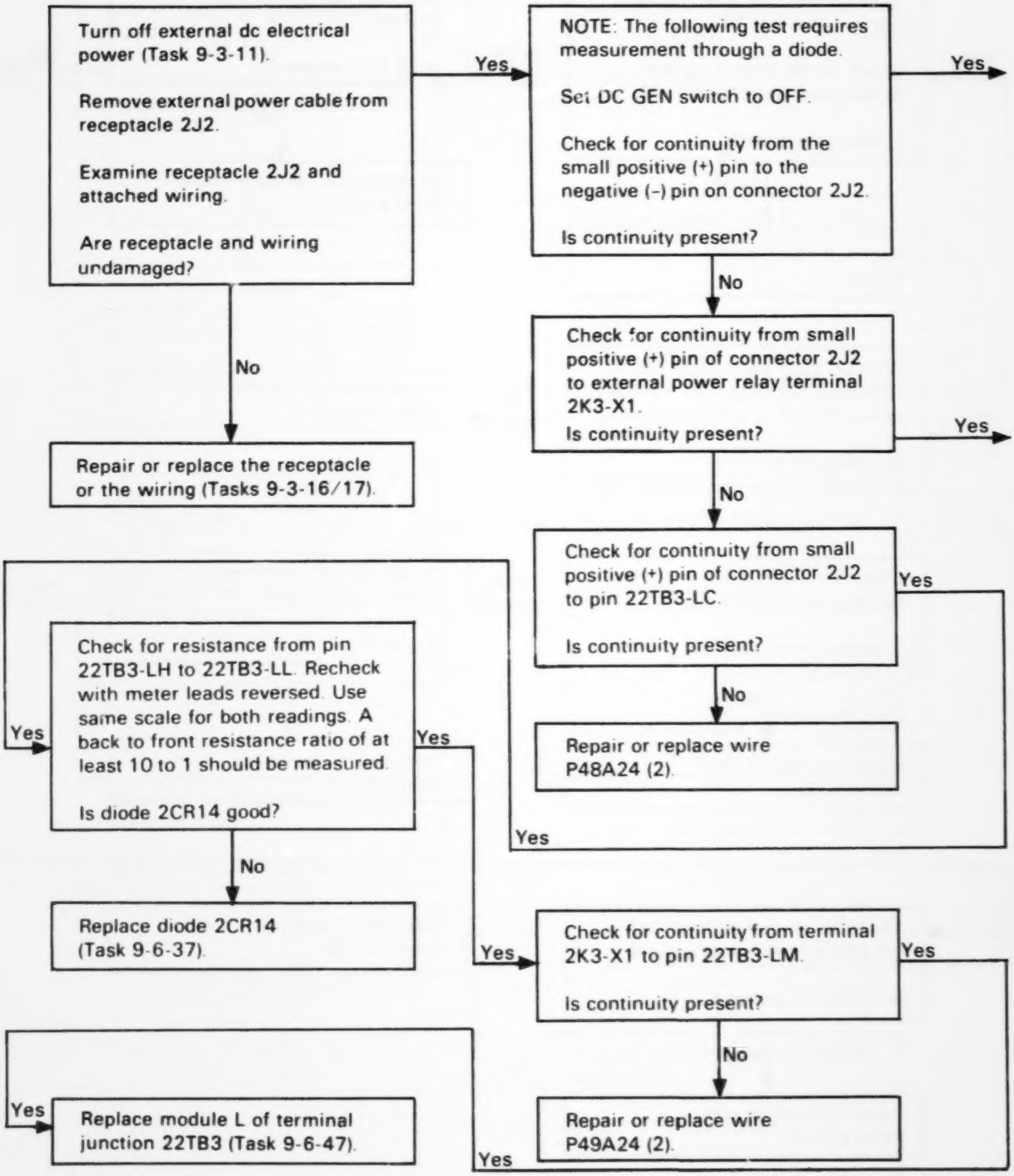
Yes
No
Yes
No
Yes
Yes
No
Yes



2VR1
VOLTAGE REGULATOR
J1
2VR1P1
GEN OUT IND
SYS AND GEN OUT GND
B
L
P47A24 (2)
P46A16N (2)
3431A1P4
9
3431A1
J4
MCPU, LEFT
DC GEN FAIL

406475-71A

25. EXTERNAL DC POWER DOES NOT COME ON



Turn off external dc electrical power (Task 9-3-11).

Remove external power cable from receptacle 2J2.

Examine receptacle 2J2 and attached wiring.

Are receptacle and wiring undamaged?

Repair or replace the receptacle or the wiring (Tasks 9-3-16/17).

NOTE: The following test requires measurement through a diode.

Set DC GEN switch to OFF.

Check for continuity from the small positive (+) pin to the negative (-) pin on connector 2J2.

Is continuity present?

Check for continuity from small positive (+) pin of connector 2J2 to external power relay terminal 2K3-X1.

Is continuity present?

Check for continuity from small positive (+) pin of connector 2J2 to pin 22TB3-LC.

Is continuity present?

Repair or replace wire P48A24 (2).

Check for resistance from pin 22TB3-LH to 22TB3-LL. Recheck with meter leads reversed. Use same scale for both readings. A back to front resistance ratio of at least 10 to 1 should be measured.

Is diode 2CR14 good?

Replace diode 2CR14 (Task 9-6-37).

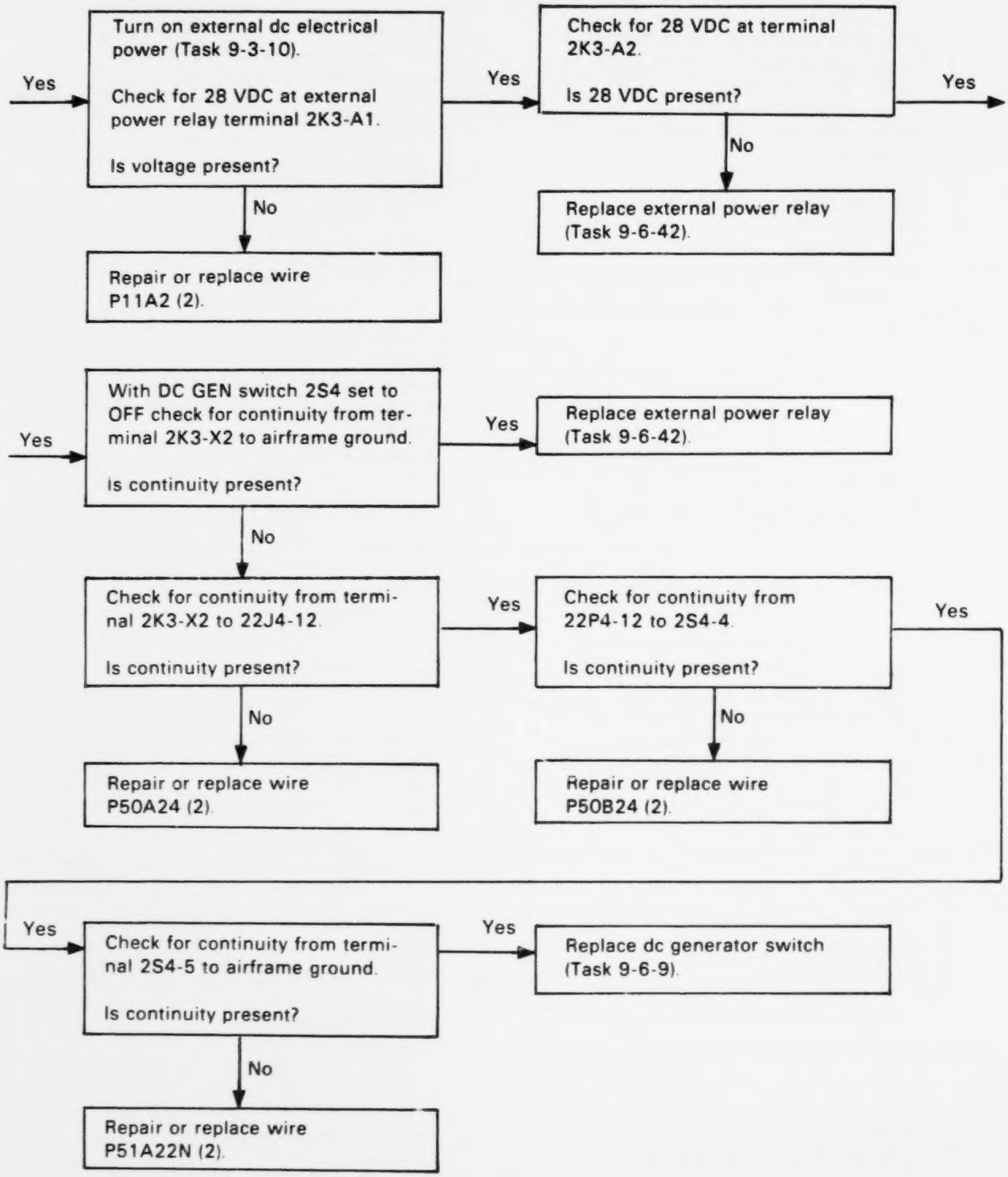
Check for continuity from terminal 2K3-X1 to pin 22TB3-LM.

Is continuity present?

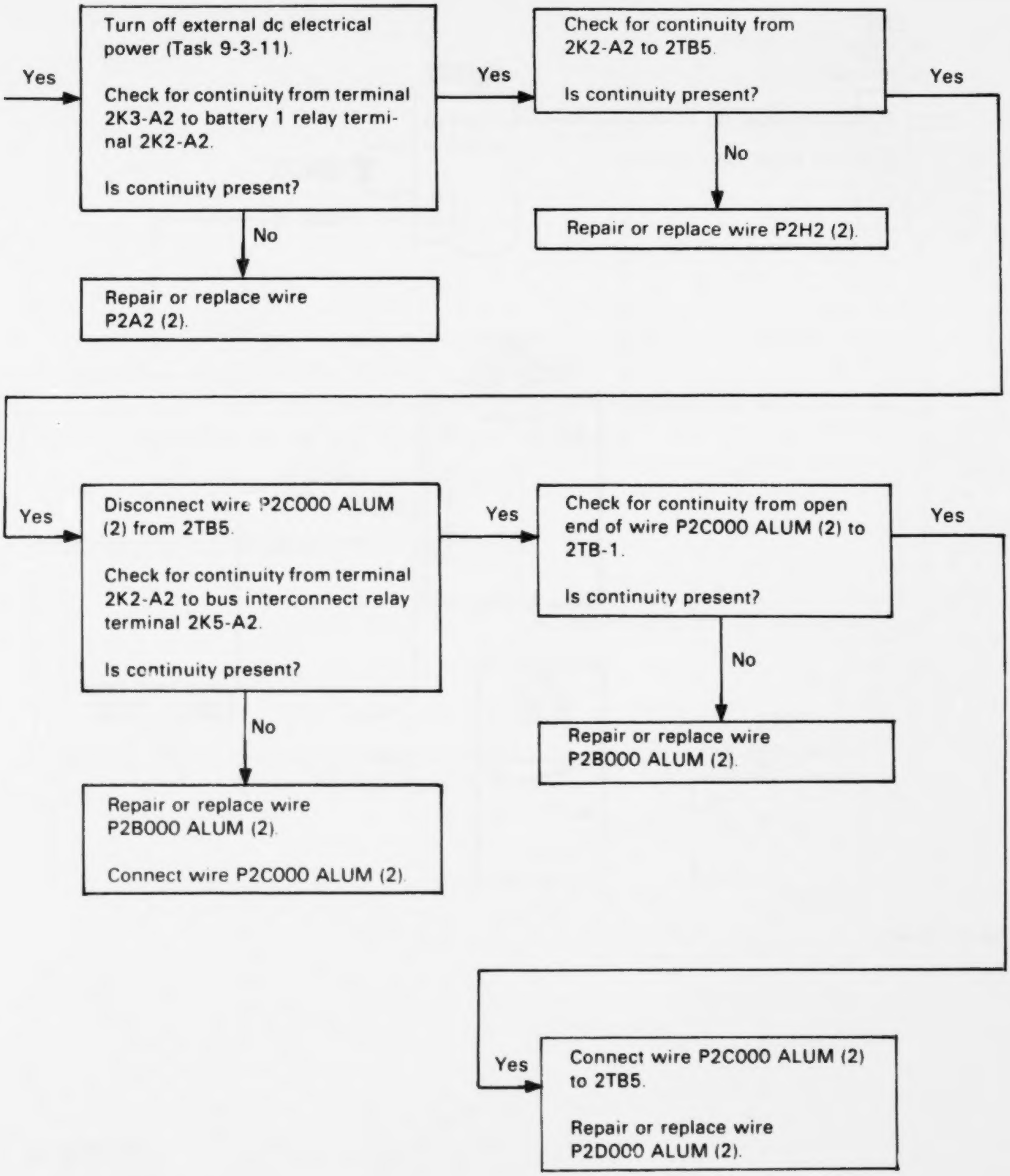
Repair or replace wire P49A24 (2).

Replace module L of terminal junction 22TB3 (Task 9-6-47).

25. EXTERNAL DC POWER DOES NOT COME ON (CONT)


Yes
Turn on external dc electrical power (Task 9-3-10).
Check for 28 VDC at external power relay terminal 2K3-A1.
Is voltage present?
No
Repair or replace wire P11A2 (2).
Yes
Check for 28 VDC at terminal 2K3-A2.
Is 28 VDC present?
Yes
No
Replace external power relay (Task 9-6-42).
Yes
With DC GEN switch 2S4 set to OFF check for continuity from terminal 2K3-X2 to airframe ground.
Is continuity present?
Yes
Replace external power relay (Task 9-6-42).
No
Check for continuity from terminal 2K3-X2 to 22J4-12.
Is continuity present?
No
Repair or replace wire P50A24 (2).
Yes
Check for continuity from 22P4-12 to 2S4-4.
Is continuity present?
No
Repair or replace wire P50B24 (2).
Yes
Yes
Check for continuity from terminal 2S4-5 to airframe ground.
Is continuity present?
Yes
Replace dc generator switch (Task 9-6-9).
No
Repair or replace wire P51A22N (2).

25. EXTERNAL DC POWER DOES NOT COME ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from terminal 2K3-A2 to battery 1 relay terminal 2K2-A2.

Is continuity present?

Repair or replace wire P2A2 (2).

Check for continuity from 2K2-A2 to 2TB5.

Is continuity present?

Repair or replace wire P2H2 (2).

Disconnect wire P2C000 ALUM (2) from 2TB5.

Check for continuity from terminal 2K2-A2 to bus interconnect relay terminal 2K5-A2.

Is continuity present?

Repair or replace wire P2B000 ALUM (2).

Connect wire P2C000 ALUM (2).

Check for continuity from open end of wire P2C000 ALUM (2) to 2TB-1.

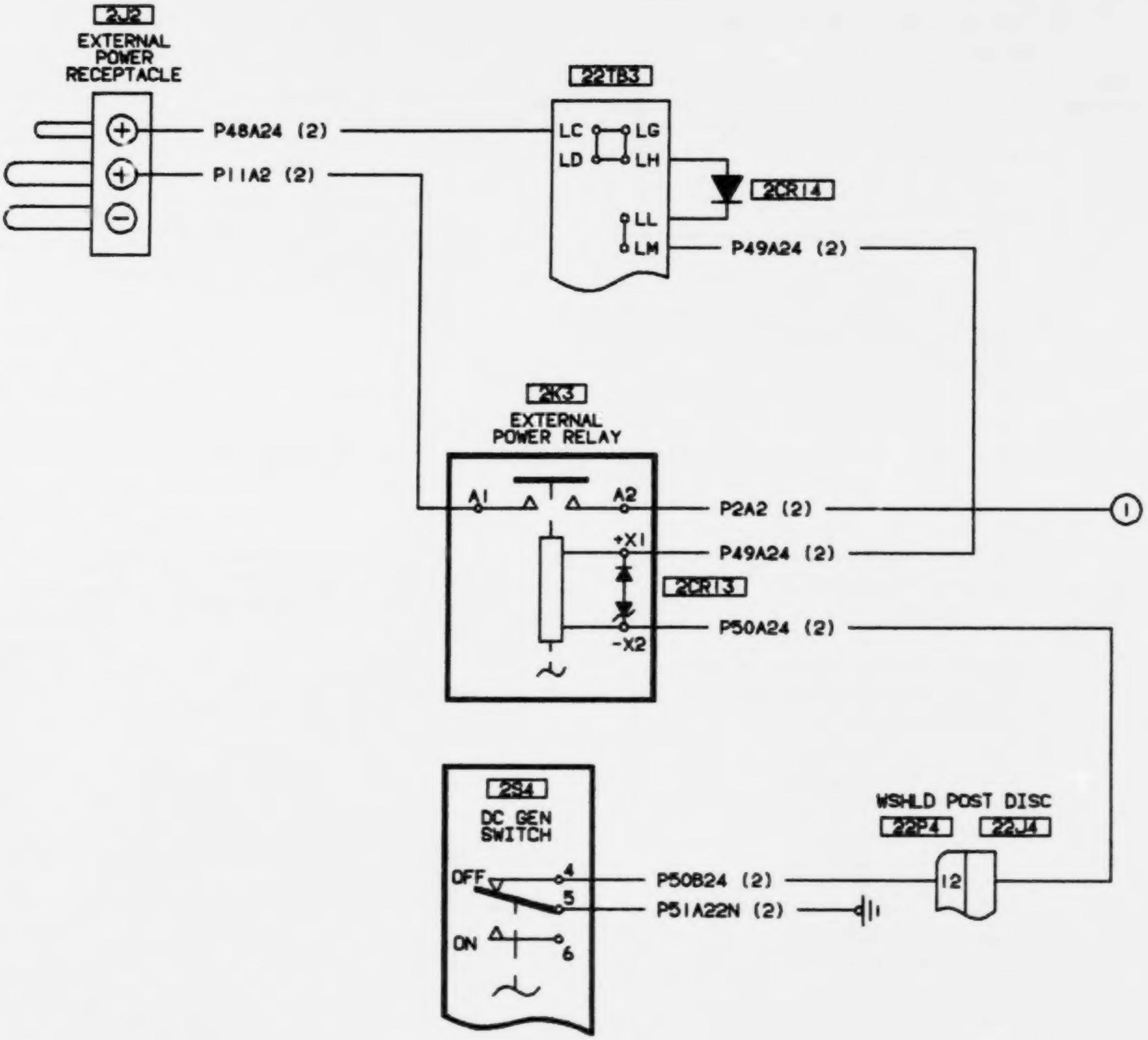
Is continuity present?

Repair or replace wire P2B000 ALUM (2).

Connect wire P2C000 ALUM (2) to 2TB5.

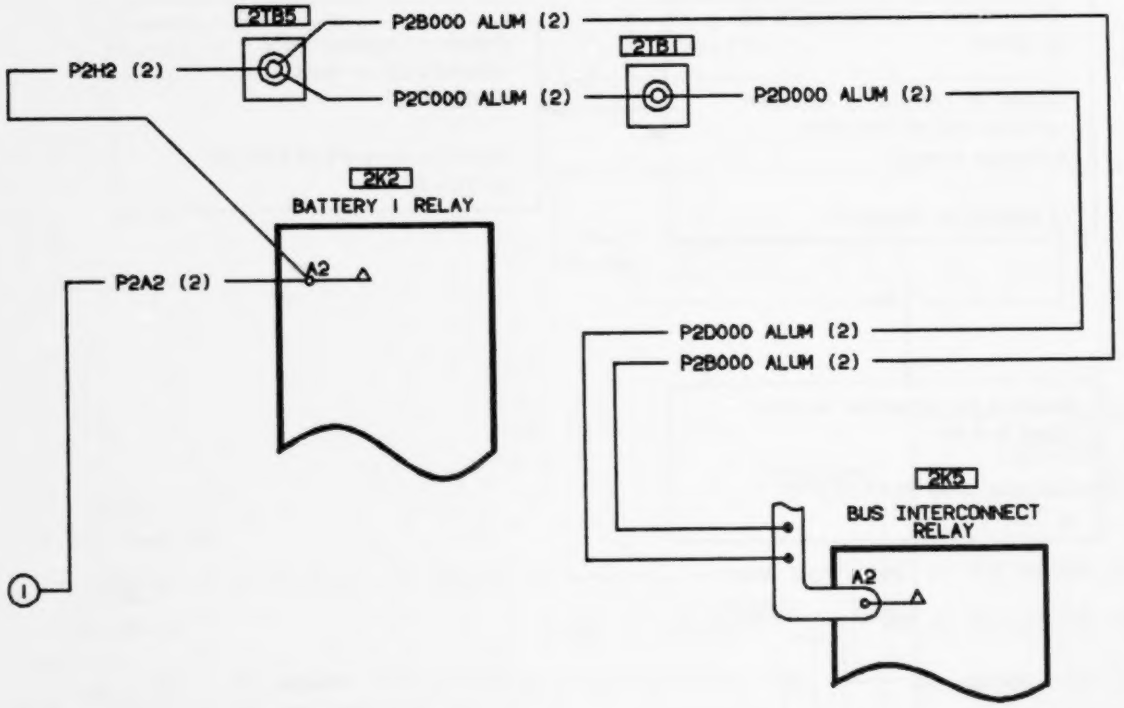
Repair or replace wire P2D000 ALUM (2).

25. EXTERNAL DC POWER DOES NOT COME ON (CONT)


2J2
EXTERNAL POWER RECEPTACLE
P48A24 (2)
P11A2 (2)
22TB3
LC
LG
LD
LH
LL
LM
2CR14
P49A24 (2)
2K3
EXTERNAL POWER RELAY
A1
A2
P2A2 (2)
1
+X1
P49A24 (2)
2CR13
-X2
P50A24 (2)
2S4
DC GEN SWITCH
OFF
4
5
ON
6
P50B24 (2)
P51A22N (2)
WSHLD POST DISC
22P4
22J4
12

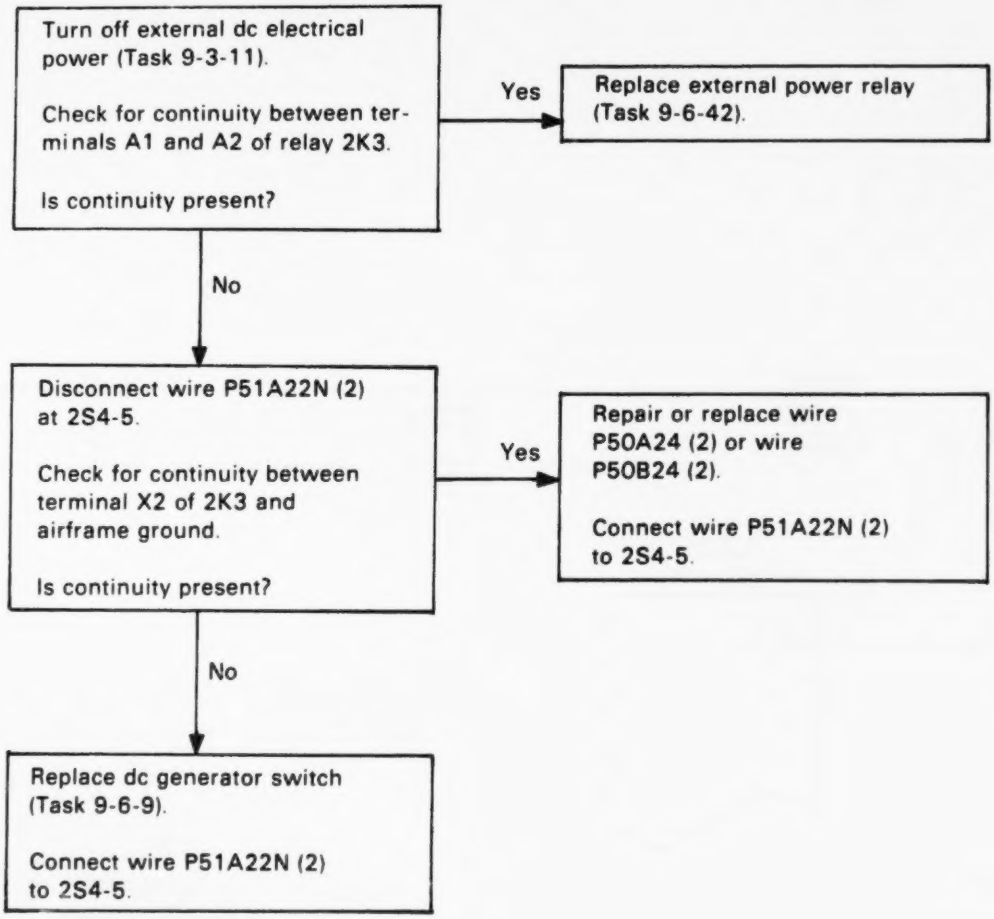
406475-20-1A

25. EXTERNAL DC POWER DOES NOT COME ON (CONT)


2TB5
P2B000 ALUM (2)
P2H2 (2)
P2C000 ALUM (2)
2TB1
P2D000 ALUM (2)
2K2
BATTERY I RELAY
A2
P2A2 (2)
P2D000 ALUM (2)
P2B000 ALUM (2)
2K5
BUS INTERCONNECT RELAY
A2
1

406475-20-2A

26. EXTERNAL DC POWER DOES NOT DISCONNECT WHEN DC GENERATOR IS TURNED ON



Turn off external dc electrical power (Task 9-3-11).

Check for continuity between terminals A1 and A2 of relay 2K3.

Is continuity present?

Yes

Replace external power relay (Task 9-6-42).

No

Disconnect wire P51A22N (2) at 2S4-5.

Check for continuity between terminal X2 of 2K3 and airframe ground.

Is continuity present?

Yes

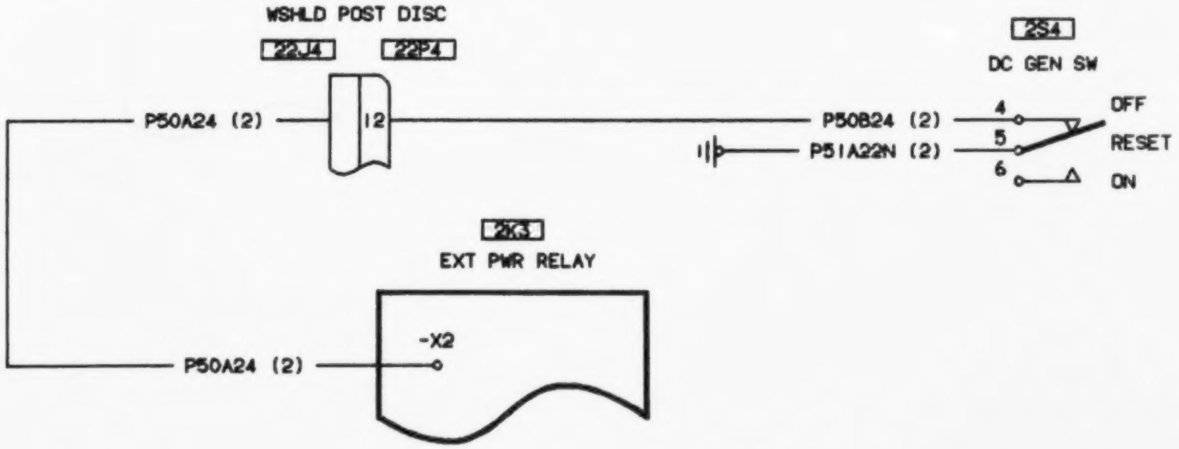
Repair or replace wire P50A24 (2) or wire P50B24 (2).

Connect wire P51A22N (2) to 2S4-5.

No

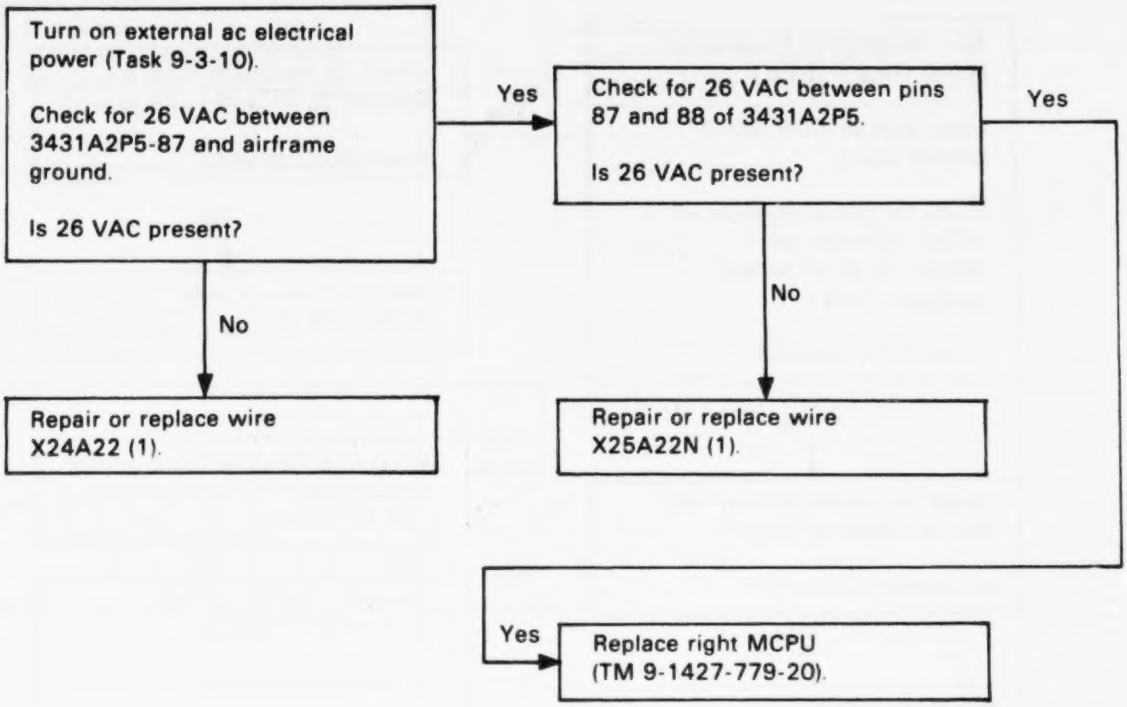
Replace dc generator switch (Task 9-6-9).

Connect wire P51A22N (2) to 2S4-5.


WSHLD POST DISC
22J4
22P4
P50A24 (2)
12
2S4
DC GEN SW
P50B24 (2)
P51A22N (2)
4
5
6
OFF
RESET
ON
2K3
EXT PWR RELAY
-X2
P50A24 (2)

406475-217

27. EXTERNAL AC POWER COMES ON, BUT NO INDICATION ABOVE ACV ON MPD


Turn on external ac electrical power (Task 9-3-10).

Check for 26 VAC between 3431A2P5-87 and airframe ground.

Is 26 VAC present?

Check for 26 VAC between pins 87 and 88 of 3431A2P5.

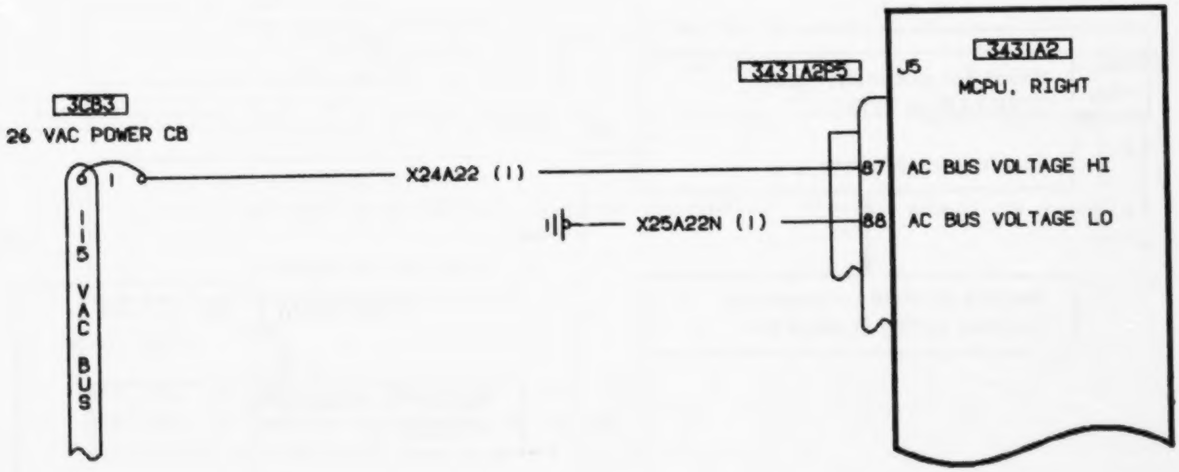
Is 26 VAC present?

Repair or replace wire X24A22 (1).

Repair or replace wire X25A22N (1).

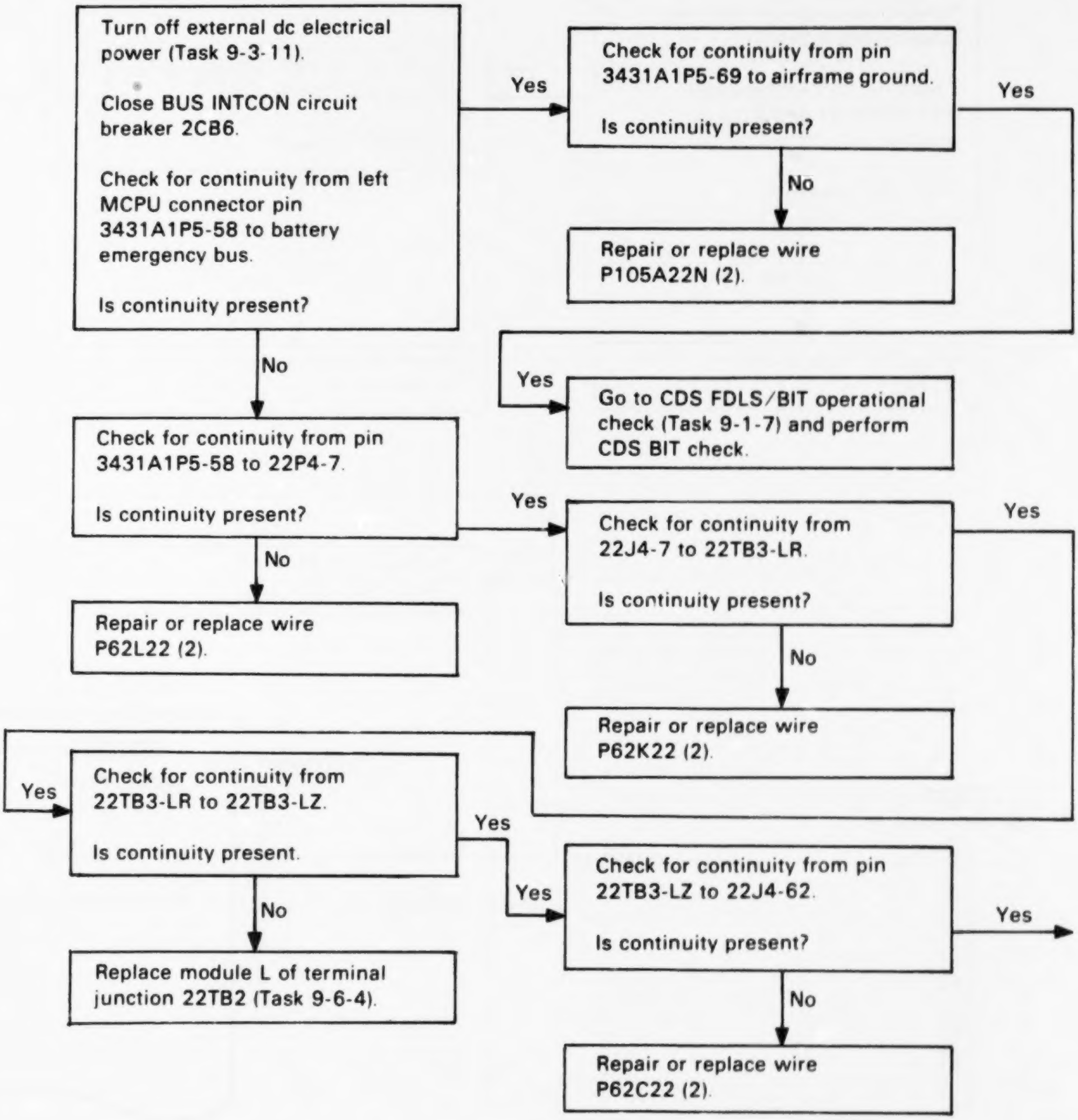
Replace right MCPU (TM 9-1427-779-20).

Yes
Yes
No
No
Yes


3CB3
26 VAC POWER CB
1
115 VAC BUS
X24A22 (1)
X25A22N (1)
3431A2P5
J5
3431A2
MCPU, RIGHT
87
88
AC BUS VOLTAGE HI
AC BUS VOLTAGE LO

406475-210

28. EXTERNAL DC POWER COMES ON, BUT NO INDICATION ABOVE BATT V ON MPD



Turn off external dc electrical power (Task 9-3-11).

Close BUS INTCON circuit breaker 2CB6.

Check for continuity from left MCPU connector pin 3431A1P5-58 to battery emergency bus.

Is continuity present?

Check for continuity from pin 3431A1P5-69 to airframe ground.

Is continuity present?

Repair or replace wire P105A22N (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Check for continuity from pin 3431A1P5-58 to 22P4-7.

Is continuity present?

Repair or replace wire P62L22 (2).

Check for continuity from 22J4-7 to 22TB3-LR.

Is continuity present?

Repair or replace wire P62K22 (2).

Check for continuity from 22TB3-LR to 22TB3-LZ.

Is continuity present.

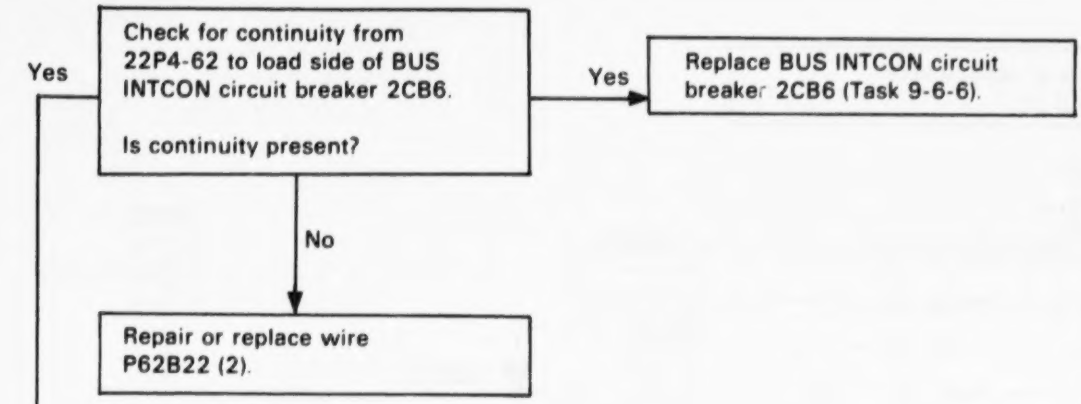
Replace module L of terminal junction 22TB2 (Task 9-6-4).

Check for continuity from pin 22TB3-LZ to 22J4-62.

Is continuity present?

Repair or replace wire P62C22 (2).

28. EXTERNAL DC POWER COMES ON, BUT NO INDICATION ABOVE BATT V ON MPD (CONT)



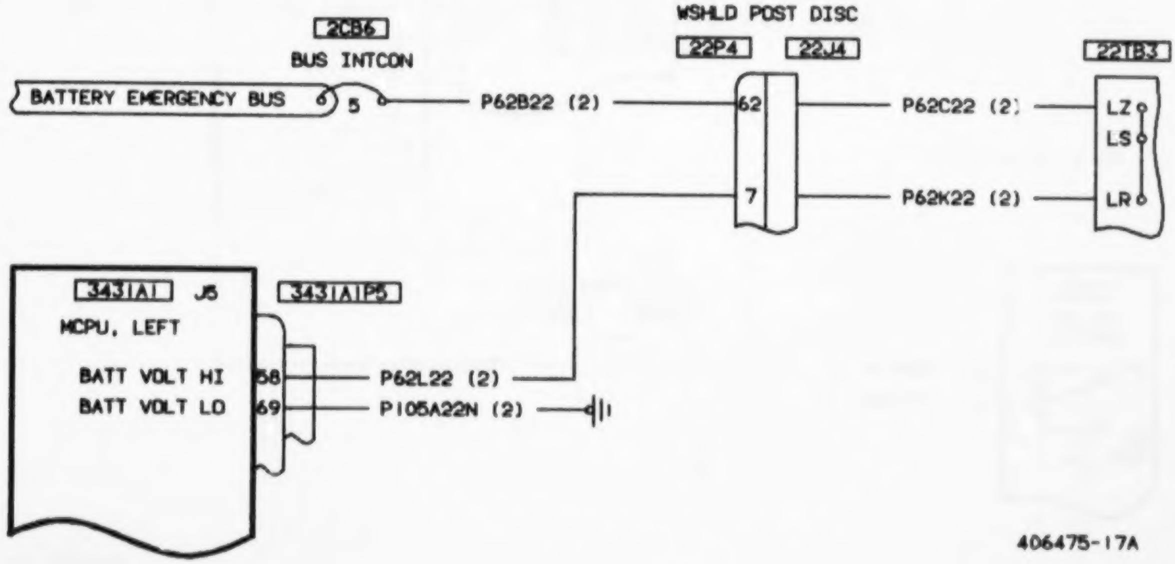
Check for continuity from 22P4-62 to load side of BUS INTCON circuit breaker 2CB6.

Is continuity present?

Yes: Replace BUS INTCON circuit breaker 2CB6 (Task 9-6-6).

No: Repair or replace wire P62B22 (2).

Yes
Yes
No
Yes

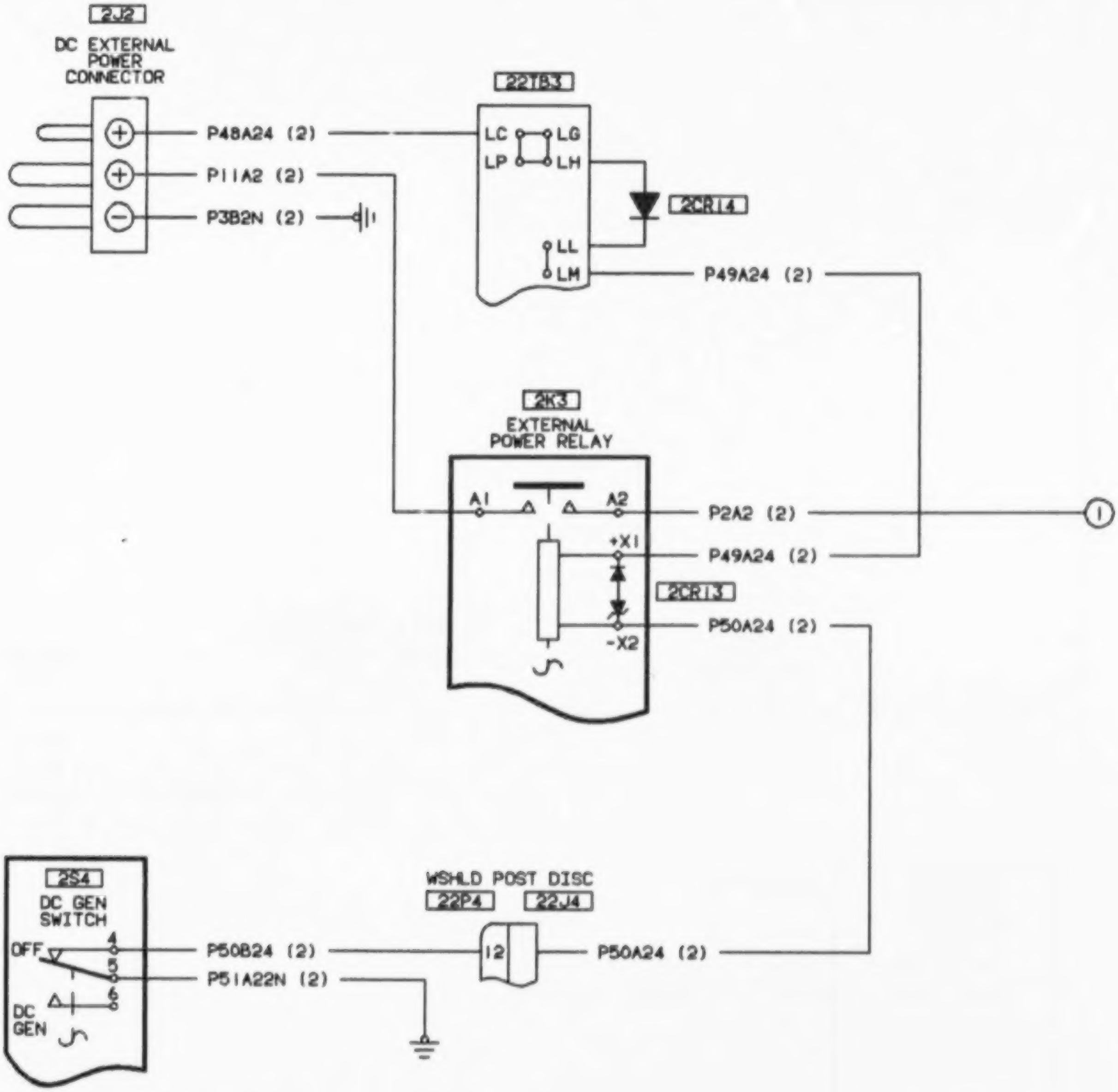


2CB6
BUS INTCON
BATTERY EMERGENCY BUS
5
P62B22 (2)
WSHLD POST DISC
22P4
22J4
62
7
P62C22 (2)
P62K22 (2)
22TB3
LZ
LS
LR
3431A1
J5
3431A1P5
MCPU, LEFT
BATT VOLT HI
BATT VOLT LO
58
69
P62L22 (2)
P105A22N (2)

406475-17A

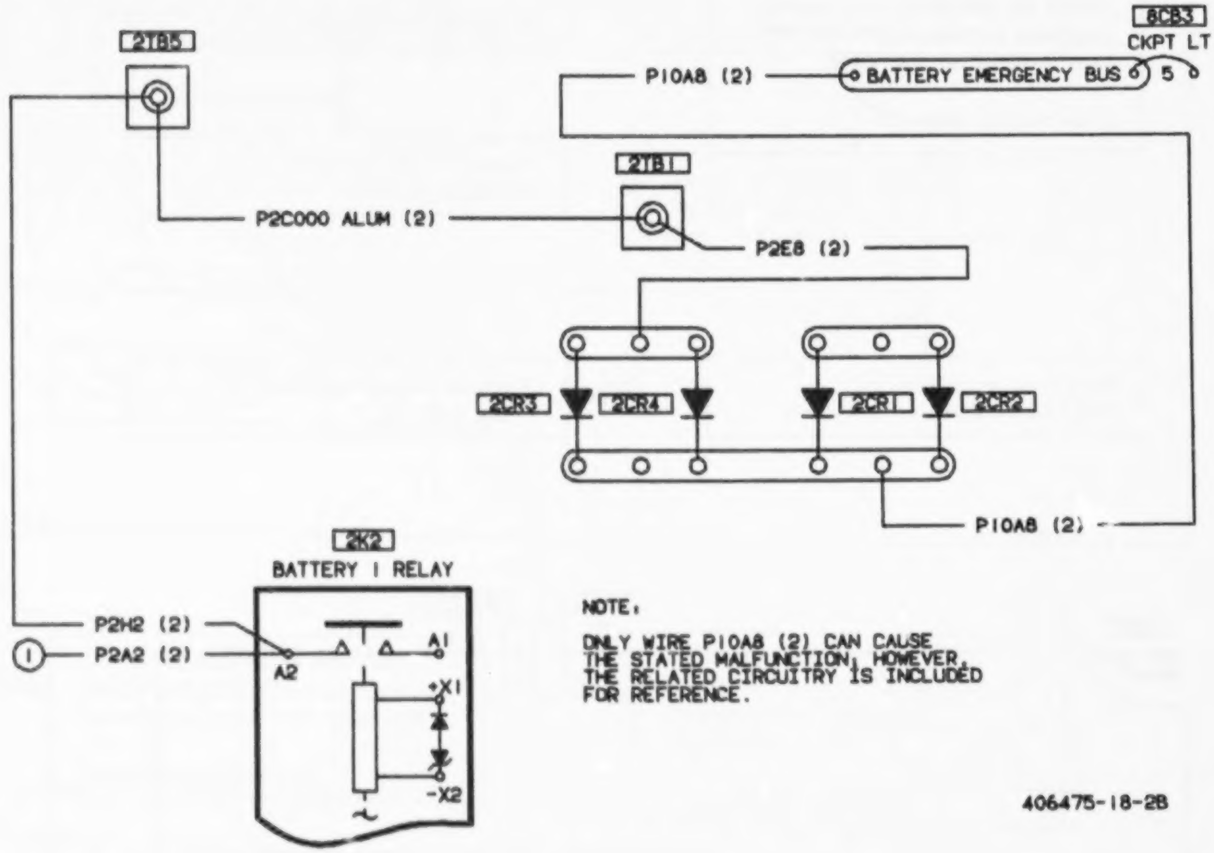
29. EXTERNAL DC POWER ON, BUT NO VOLTAGE PRESENT ON BATTERY EMERGENCY BUS

Repair or replace wire P10A8 (2).


2J2
DC EXTERNAL POWER CONNECTOR
P48A24 (2)
P11A2 (2)
P3B2N (2)
22TB3
LC
LG
LP
LH
LL
LM
2CR14
P49A24 (2)
2K3
EXTERNAL POWER RELAY
A1
A2
P2A2 (2)
1
+X1
P49A24 (2)
2CR13
P50A24 (2)
-X2
2S4
DC GEN SWITCH
OFF
4
5
6
DC GEN
P50B24 (2)
P51A22N (2)
WSHLD POST DISC
22P4
22J4
1
2
P50A24 (2)

406475-18-1B

29. EXTERNAL DC POWER ON, BUT NO VOLTAGE PRESENT ON BATTERY EMERGENCY BUS (CONT)

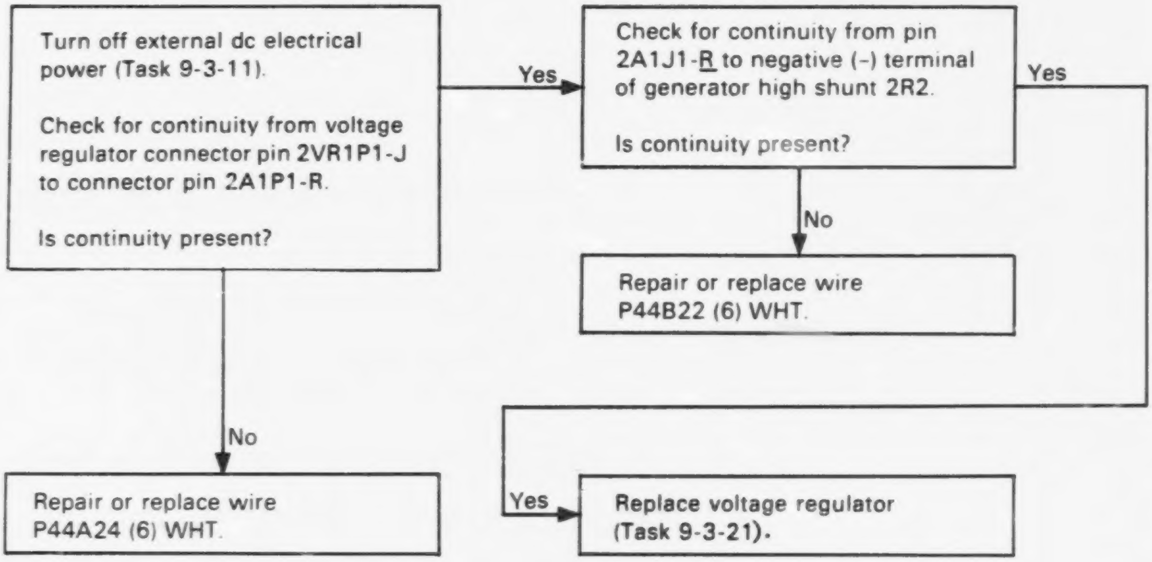

8CB3
CKPT LT
2TB5
P10A8 (2)
BATTERY EMERGENCY BUS
5
2TB1
P2C000 ALUM (2)
P2E8 (2)
2CR3
2CR4
2CR1
2CR2
P10A8 (2)
2K2
BATTERY 1 RELAY
P2H2 (2)
P2A2 (2)
1
A2
A1
+X1
-X2

NOTE:

ONLY WIRE P10A8 (2) CAN CAUSE THE STATED MALFUNCTION; HOWEVER, THE RELATED CIRCUITRY IS INCLUDED FOR REFERENCE.

406475-18-28

30. GENERATOR NOT OFF LINE AT 18 VOLTS (ENGINE RPM IS BEING REDUCED)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from voltage regulator connector pin 2VR1P1-J to connector pin 2A1P1-R.

Is continuity present?

Check for continuity from pin 2A1J1-R to negative (-) terminal of generator high shunt 2R2.

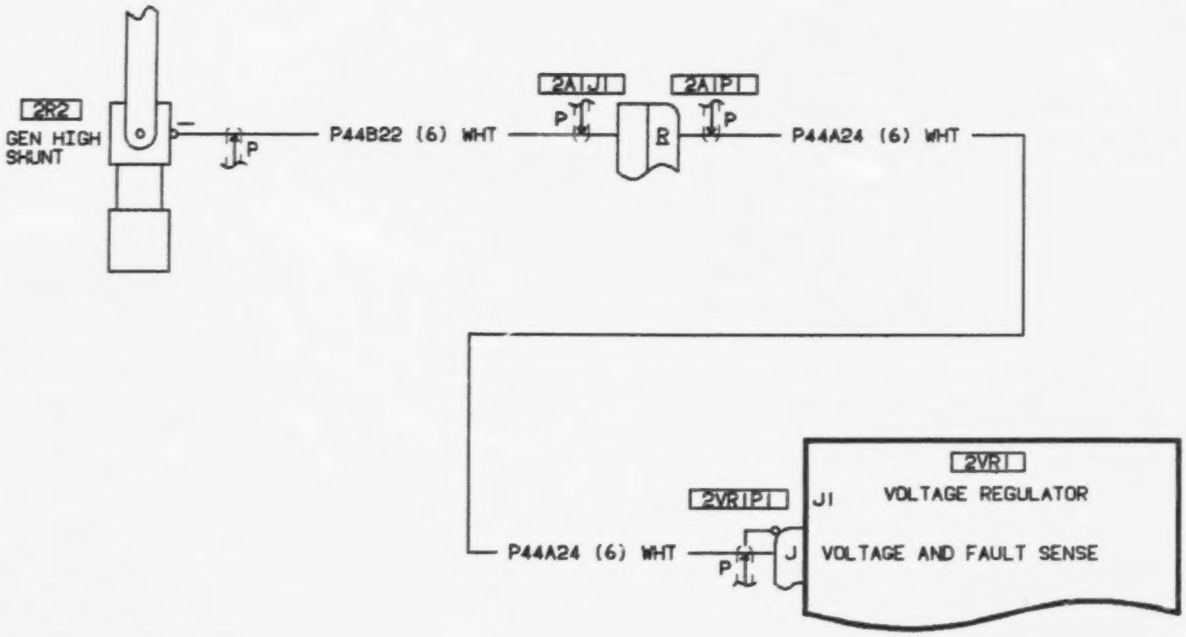
Is continuity present?

Repair or replace wire P44B22 (6) WHT.

Repair or replace wire P44A24 (6) WHT.

Replace voltage regulator (Task 9-3-21).

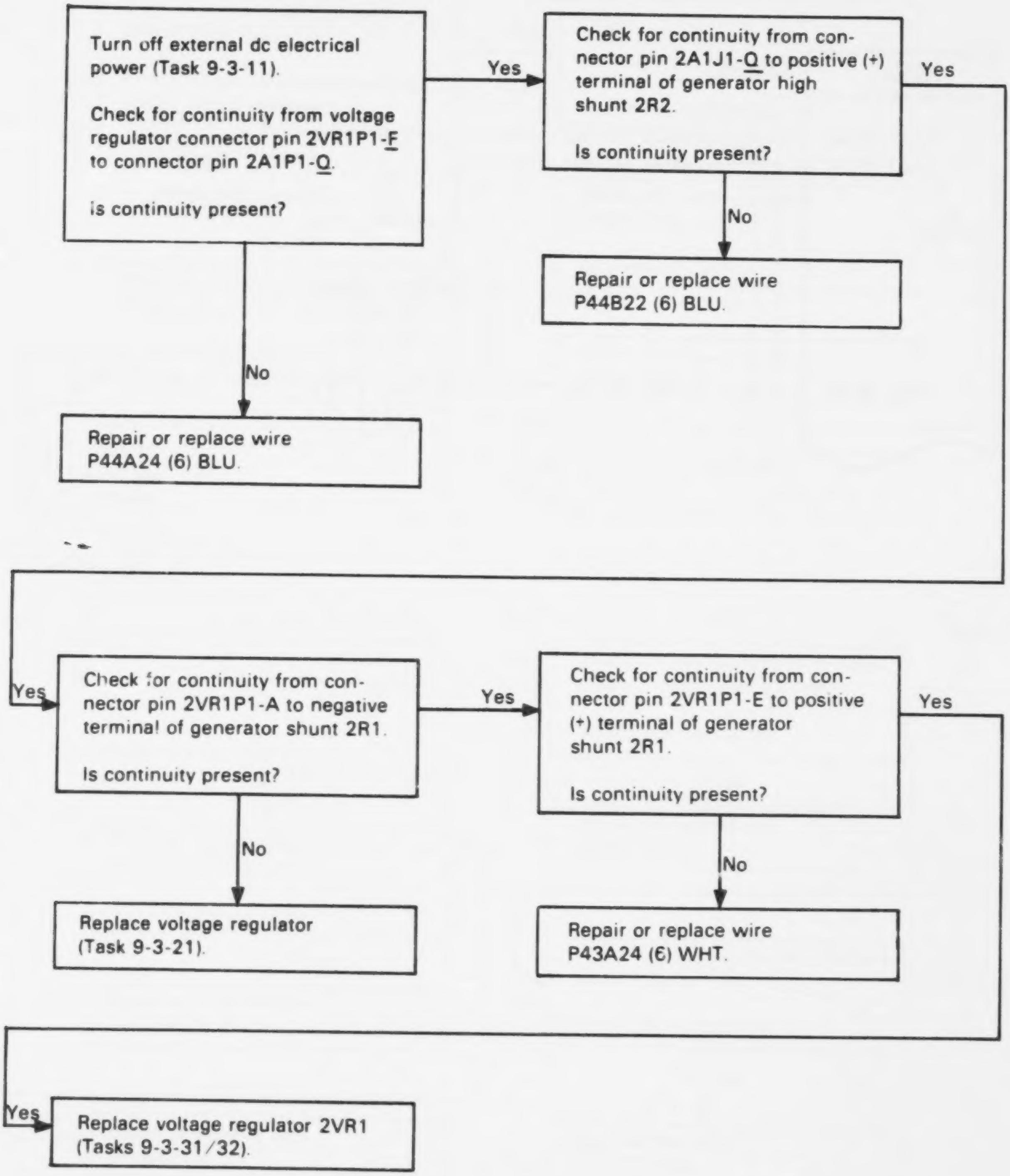
Yes
Yes
No
No
Yes



2R2
GEN HIGH SHUNT
−
P
P44B22 (6) WHT
2A1J1
2A1P1
P
R
P
P44A24 (6) WHT
2VR1
2VR1P1
J1
VOLTAGE REGULATOR
P44A24 (6) WHT
P
J
VOLTAGE AND FAULT SENSE

406475-70A

31. GENERATOR WILL NOT TRIP OFF LINE WITH SIMULATED FEEDER FAULT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from voltage regulator connector pin 2VR1P1-F to connector pin 2A1P1-Q.

Is continuity present?

Check for continuity from connector pin 2A1J1-Q to positive (+) terminal of generator high shunt 2R2.

Is continuity present?

Repair or replace wire P44B22 (6) BLU.

Repair or replace wire P44A24 (6) BLU.

Check for continuity from connector pin 2VR1P1-A to negative terminal of generator shunt 2R1.

Is continuity present?

Check for continuity from connector pin 2VR1P1-E to positive (+) terminal of generator shunt 2R1.

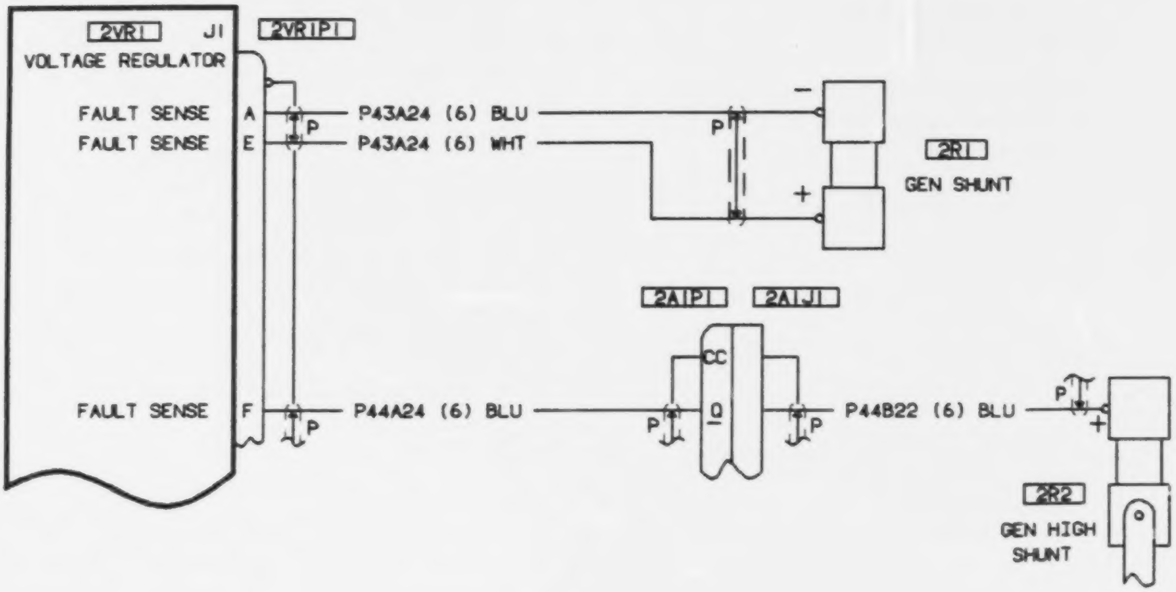
Is continuity present?

Replace voltage regulator (Task 9-3-21).

Repair or replace wire P43A24 (6) WHT.

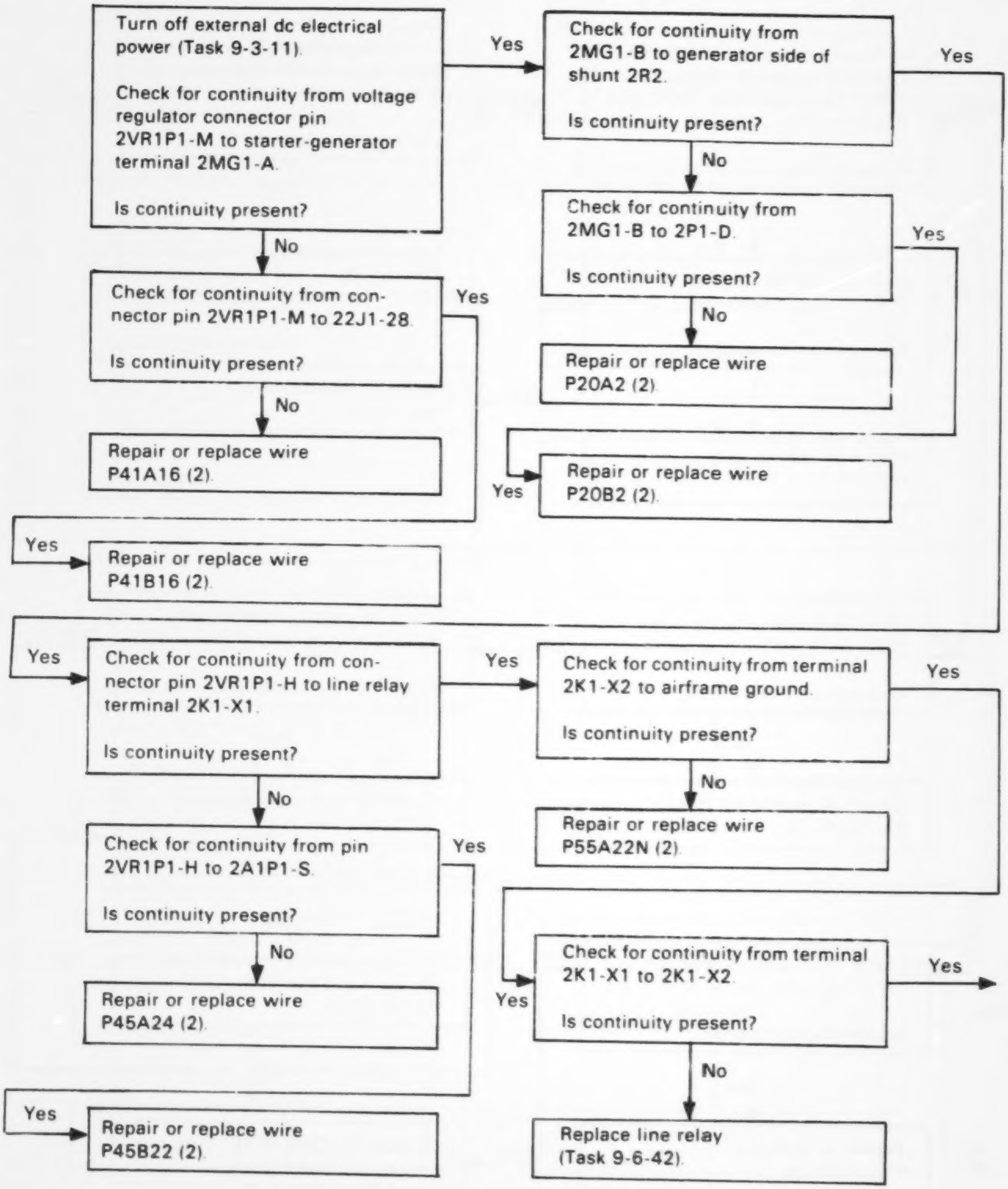
Replace voltage regulator 2VR1 (Tasks 9-3-31/32).

31. GENERATOR WILL NOT TRIP OFF LINE WITH SIMULATED FEEDER FAULT (CONT)


2VR1
J1
2VR1P1
VOLTAGE REGULATOR
FAULT SENSE
A
FAULT SENSE
E
FAULT SENSE
F
P43A24 (6) BLU
P43A24 (6) WHT
P44A24 (6) BLU
P44B22 (6) BLU
P
−
+
2R1
GEN SHUNT
2A1P1
2A1J1
CC
Q
2R2
GEN HIGH
SHUNT

406475-69A

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from voltage regulator connector pin 2VR1P1-M to starter-generator terminal 2MG1-A.

Is continuity present?

Check for continuity from 2MG1-B to generator side of shunt 2R2.

Is continuity present?

Check for continuity from 2MG1-B to 2P1-D.

Is continuity present?

Repair or replace wire P20A2 (2).

Repair or replace wire P20B2 (2).

Check for continuity from connector pin 2VR1P1-M to 22J1-28.

Is continuity present?

Repair or replace wire P41A16 (2).

Repair or replace wire P41B16 (2).

Check for continuity from connector pin 2VR1P1-H to line relay terminal 2K1-X1.

Is continuity present?

Check for continuity from terminal 2K1-X2 to airframe ground.

Is continuity present?

Repair or replace wire P55A22N (2).

Check for continuity from pin 2VR1P1-H to 2A1P1-S.

Is continuity present?

Repair or replace wire P45A24 (2).

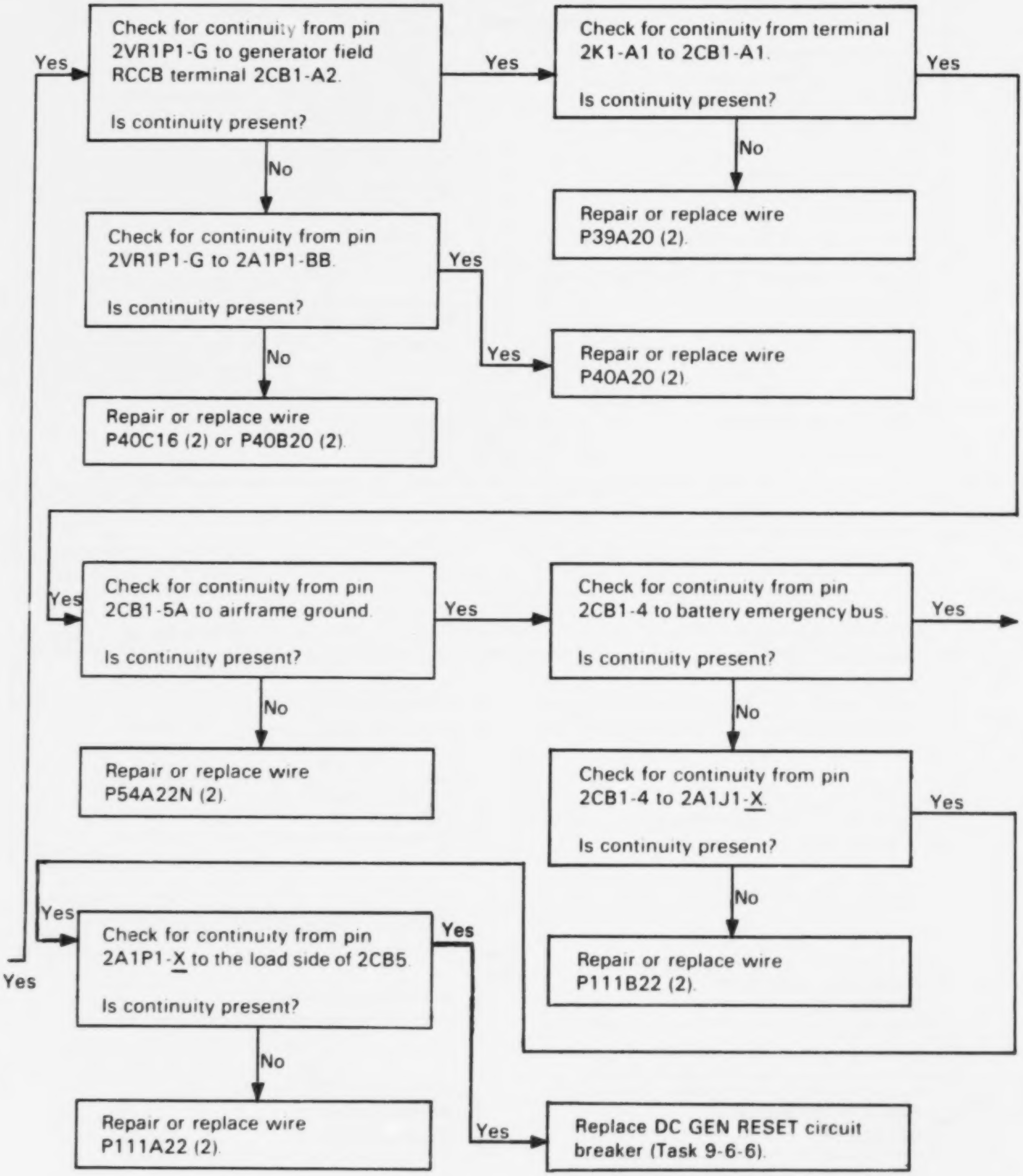
Repair or replace wire P45B22 (2).

Check for continuity from terminal 2K1-X1 to 2K1-X2.

Is continuity present?

Replace line relay (Task 9-6-42).

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED (CONT)



Check for continuity from pin 2VR1P1-G to generator field RCCB terminal 2CB1-A2.

Is continuity present?

Check for continuity from terminal 2K1-A1 to 2CB1-A1.

Is continuity present?

Repair or replace wire P39A20 (2).

Check for continuity from pin 2VR1P1-G to 2A1P1-BB.

Is continuity present?

Repair or replace wire P40A20 (2).

Repair or replace wire P40C16 (2) or P40B20 (2).

Check for continuity from pin 2CB1-5A to airframe ground.

Is continuity present?

Check for continuity from pin 2CB1-4 to battery emergency bus.

Is continuity present?

Repair or replace wire P54A22N (2).

Check for continuity from pin 2CB1-4 to 2A1J1-X.

Is continuity present?

Check for continuity from pin 2A1P1-X to the load side of 2CB5.

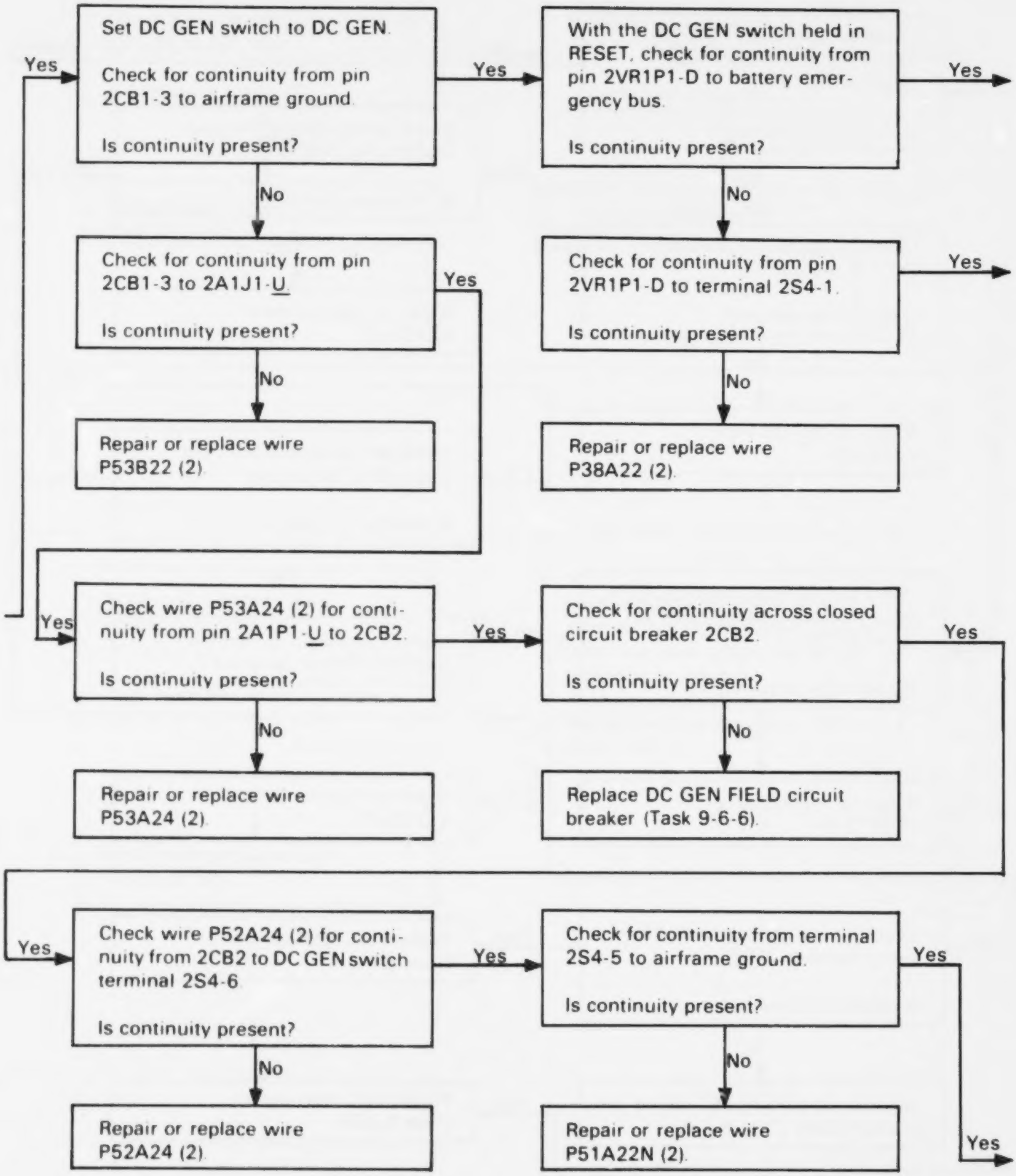
Is continuity present?

Repair or replace wire P111B22 (2).

Repair or replace wire P111A22 (2).

Replace DC GEN RESET circuit breaker (Task 9-6-6).

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED) (CONT)



Set DC GEN switch to DC GEN.

Check for continuity from pin 2CB1-3 to airframe ground.

Is continuity present?

With the DC GEN switch held in RESET, check for continuity from pin 2VR1P1-D to battery emergency bus.

Is continuity present?

Check for continuity from pin 2CB1-3 to 2A1J1-U.

Is continuity present?

Check for continuity from pin 2VR1P1-D to terminal 2S4-1.

Is continuity present?

Repair or replace wire P53B22 (2).

Repair or replace wire P38A22 (2).

Check wire P53A24 (2) for continuity from pin 2A1P1-U to 2CB2.

Is continuity present?

Check for continuity across closed circuit breaker 2CB2.

Is continuity present?

Repair or replace wire P53A24 (2).

Replace DC GEN FIELD circuit breaker (Task 9-6-6).

Check wire P52A24 (2) for continuity from 2CB2 to DC GEN switch terminal 2S4-6.

Is continuity present?

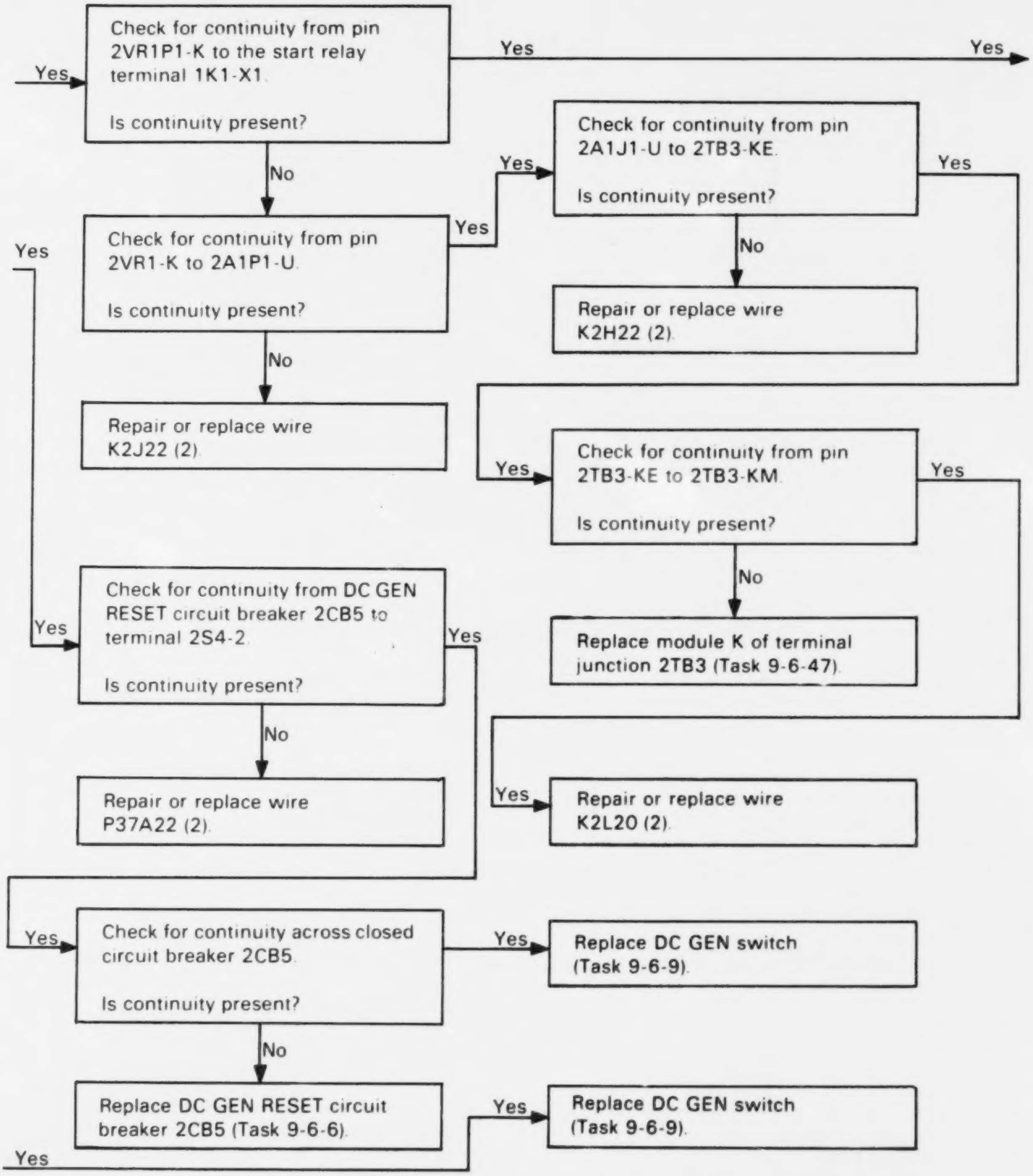
Check for continuity from terminal 2S4-5 to airframe ground.

Is continuity present?

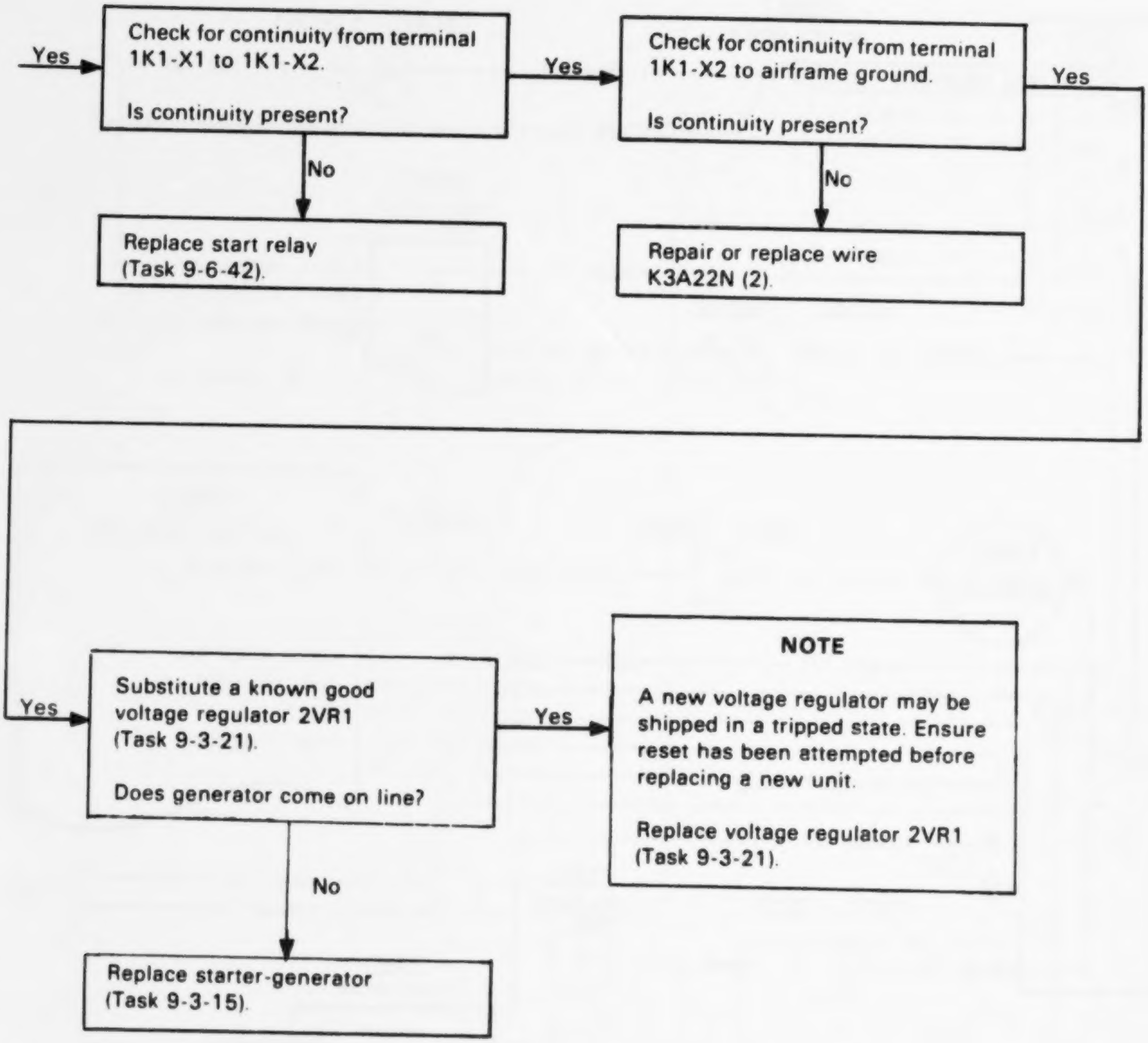
Repair or replace wire P52A24 (2).

Repair or replace wire P51A22N (2).

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED) (CONT)


Yes
Check for continuity from pin 2VR1P1-K to the start relay terminal 1K1-X1. Is continuity present?
Yes
Yes
No
Check for continuity from pin 2VR1-K to 2A1P1-U. Is continuity present?
Yes
Yes
Check for continuity from pin 2A1J1-U to 2TB3-KE. Is continuity present?
Yes
No
Repair or replace wire K2H22 (2).
No
Repair or replace wire K2J22 (2).
Yes
Yes
Check for continuity from pin 2TB3-KE to 2TB3-KM. Is continuity present?
Yes
No
Replace module K of terminal junction 2TB3 (Task 9-6-47).
Yes
Check for continuity from DC GEN RESET circuit breaker 2CB5 to terminal 2S4-2. Is continuity present?
Yes
No
Repair or replace wire P37A22 (2).
Yes
Repair or replace wire K2L20 (2).
Yes
Check for continuity across closed circuit breaker 2CB5. Is continuity present?
Yes
Replace DC GEN switch (Task 9-6-9).
No
Replace DC GEN RESET circuit breaker 2CB5 (Task 9-6-6).
Yes
Yes
Replace DC GEN switch (Task 9-6-9).

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED) (CONT)



Check for continuity from terminal 1K1-X1 to 1K1-X2.

Is continuity present?

Replace start relay (Task 9-6-42).

Check for continuity from terminal 1K1-X2 to airframe ground.

Is continuity present?

Repair or replace wire K3A22N (2).

Substitute a known good voltage regulator 2VR1 (Task 9-3-21).

Does generator come on line?

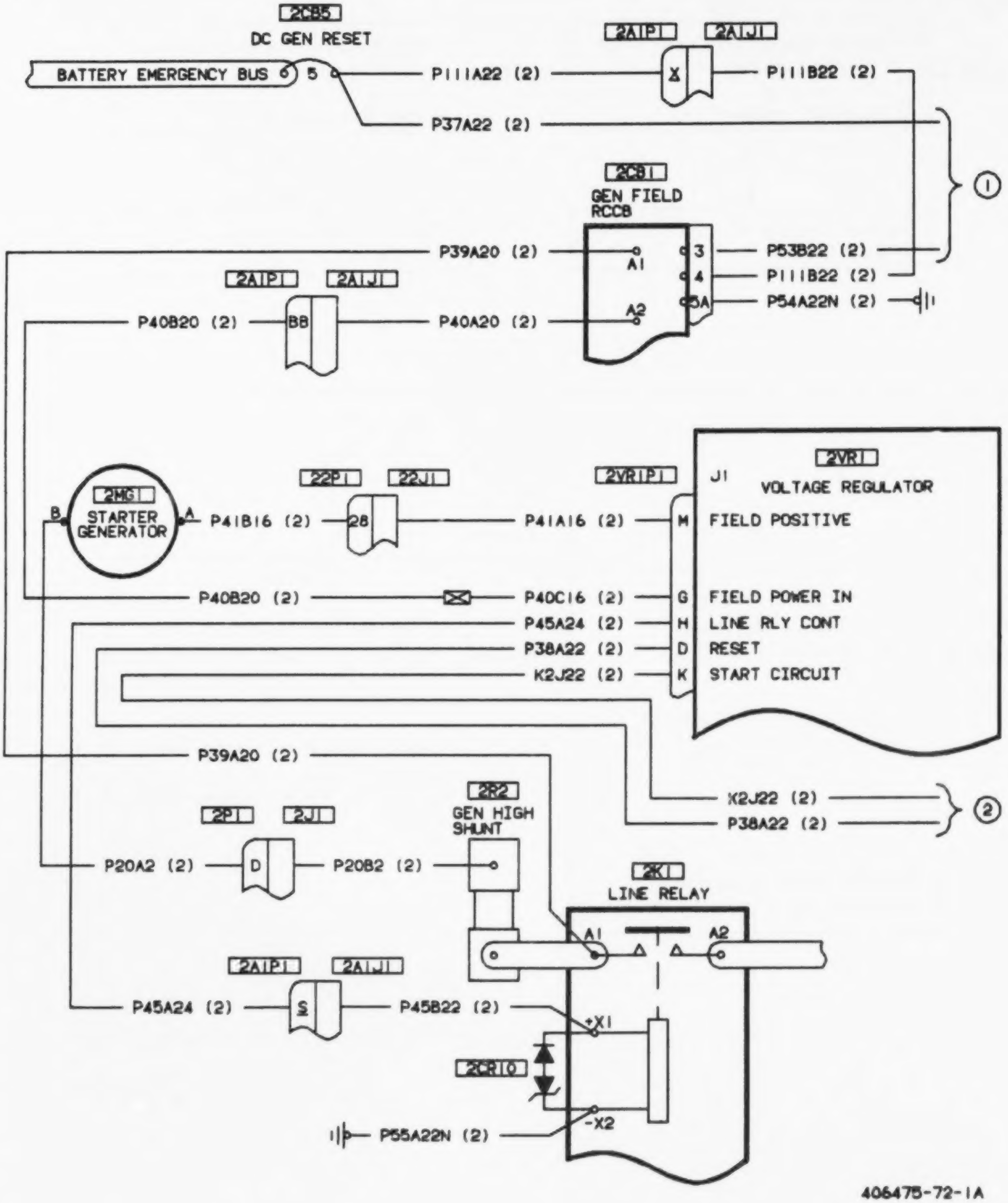
NOTE

A new voltage regulator may be shipped in a tripped state. Ensure reset has been attempted before replacing a new unit.

Replace voltage regulator 2VR1 (Task 9-3-21).

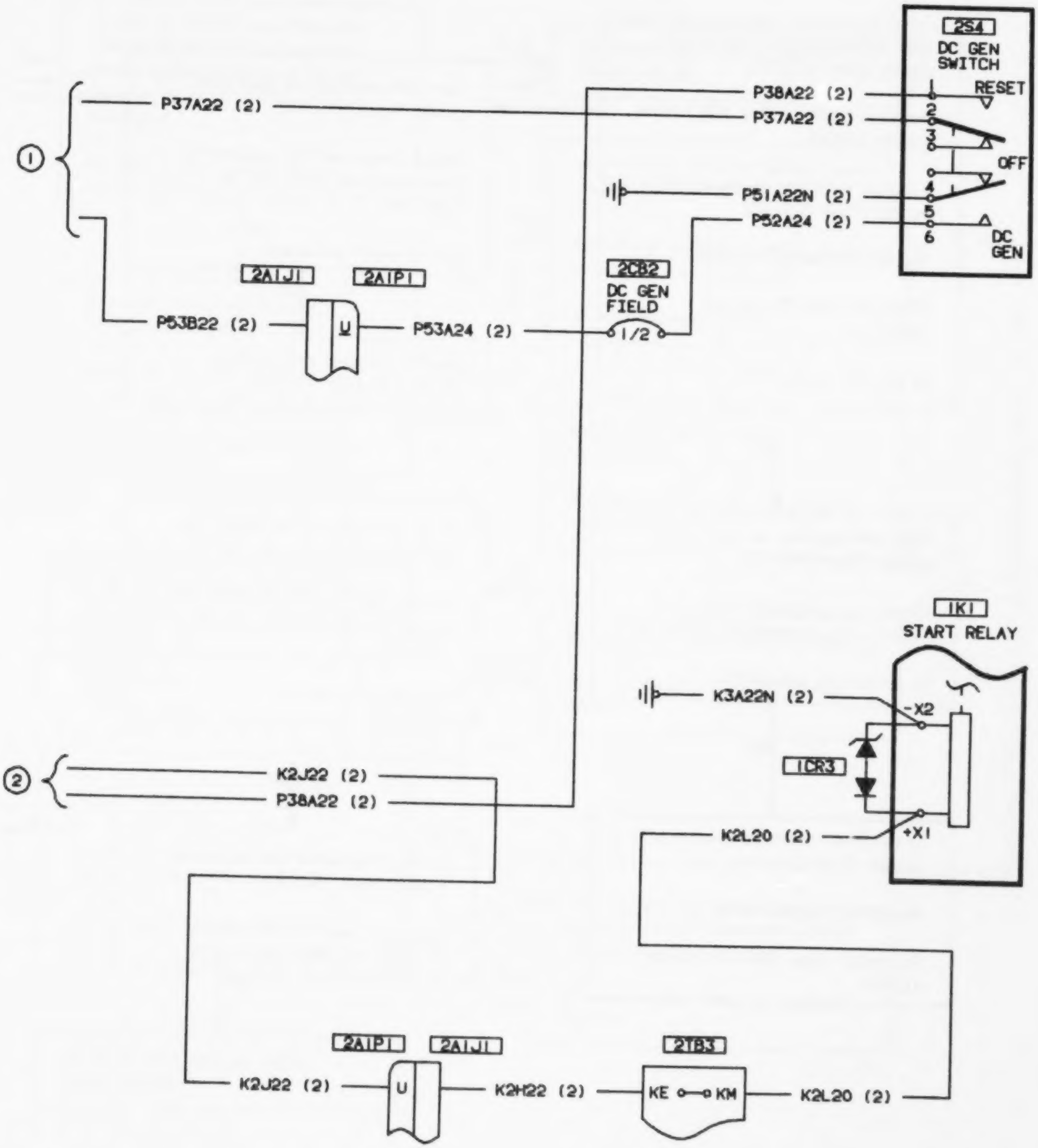
Replace starter-generator (Task 9-3-15).

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED) (CONT)


2CB5
DC GEN RESET
BATTERY EMERGENCY BUS
5
P111A22 (2)
2A1P1
2A1J1
X
P111B22 (2)
P37A22 (2)
①
2CB1
GEN FIELD
RCCB
P39A20 (2)
A1
3
P53B22 (2)
4
P111B22 (2)
A2
5A
P54A22N (2)
2A1P1
2A1J1
P40B20 (2)
BB
P40A20 (2)
2VR1
VOLTAGE REGULATOR
2VR1P1
J1
22P1
22J1
2MG1
STARTER GENERATOR
B
A
P41B16 (2)
28
P41A16 (2)
M
FIELD POSITIVE
P40B20 (2)
P40C16 (2)
G
FIELD POWER IN
P45A24 (2)
H
LINE RLY CONT
P38A22 (2)
D
RESET
K2J22 (2)
K
START CIRCUIT
P39A20 (2)
X2J22 (2)
P38A22 (2)
②
2R2
GEN HIGH
SHUNT
2P1
2J1
P20A2 (2)
D
P20B2 (2)
2K1
LINE RELAY
A1
A2
2A1P1
2A1J1
P45A24 (2)
S
P45B22 (2)
+X1
2CR10
-X2
P55A22N (2)

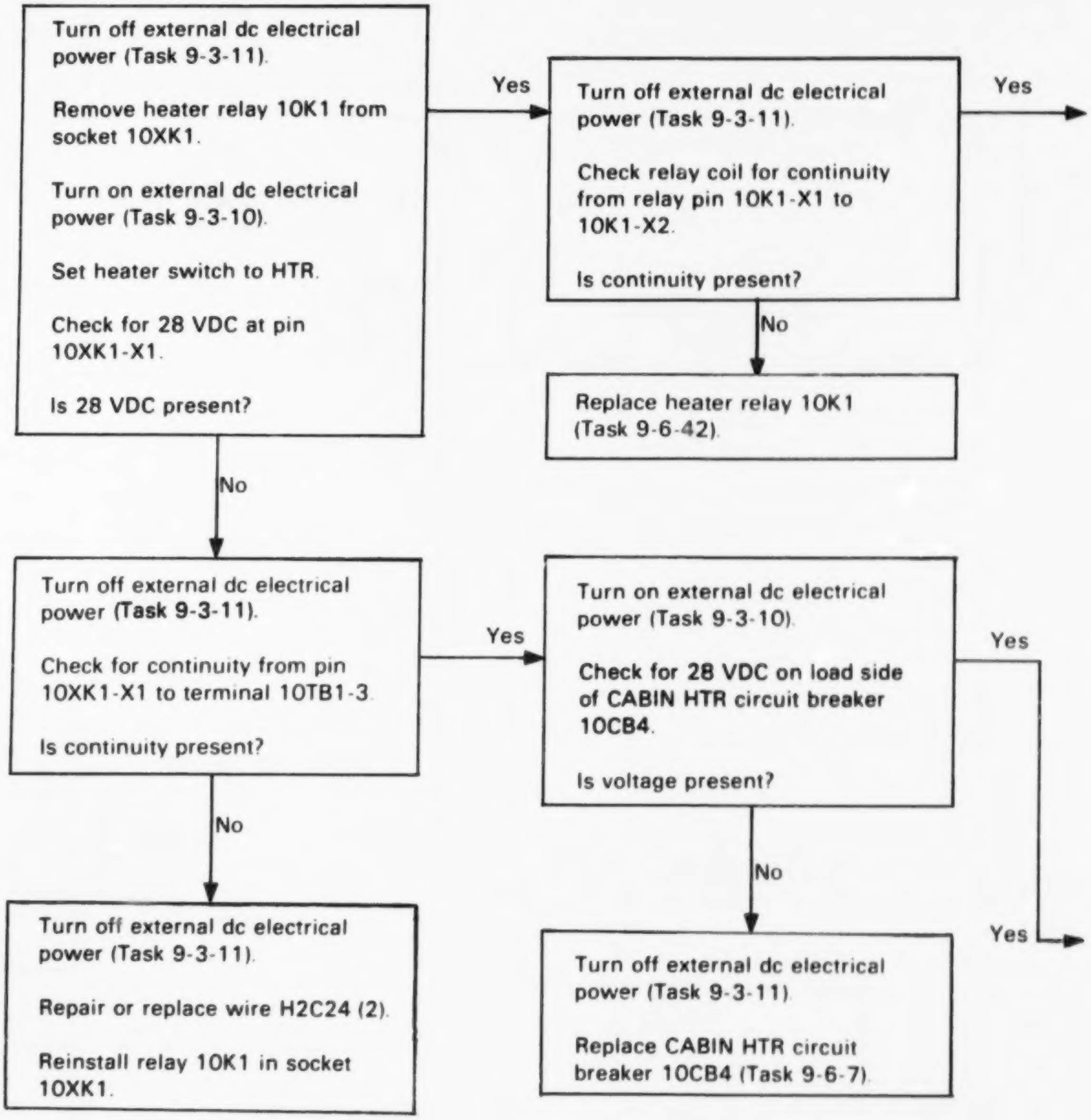
406475-72-1A

32. GENERATOR WILL NOT COME ON LINE (RESET HAS BEEN ATTEMPTED) (CONT)


2S4
DC GEN SWITCH
RESET
OFF
DC GEN
1
2
3
4
5
6
P38A22 (2)
P37A22 (2)
P51A22N (2)
P52A24 (2)
①
P37A22 (2)
P53B22 (2)
2A1J1
2A1P1
U
P53A24 (2)
2CB2
DC GEN FIELD
1/2
1K1
START RELAY
K3A22N (2)
-X2
+X1
1CR3
K2L20 (2)
②
K2J22 (2)
P38A22 (2)
2A1P1
2A1J1
K2J22 (2)
U
K2H22 (2)
2TB3
KE
KM
K2L20 (2)

406475-72-2A

33. HEATER SOLENOID VALVE WILL NOT CLOSE



Turn off external dc electrical power (Task 9-3-11).

Remove heater relay 10K1 from socket 10XK1.

Turn on external dc electrical power (Task 9-3-10).

Set heater switch to HTR.

Check for 28 VDC at pin 10XK1-X1.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check relay coil for continuity from relay pin 10K1-X1 to 10K1-X2.

Is continuity present?

Replace heater relay 10K1 (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 10XK1-X1 to terminal 10TB1-3.

Is continuity present?

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC on load side of CABIN HTR circuit breaker 10CB4.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

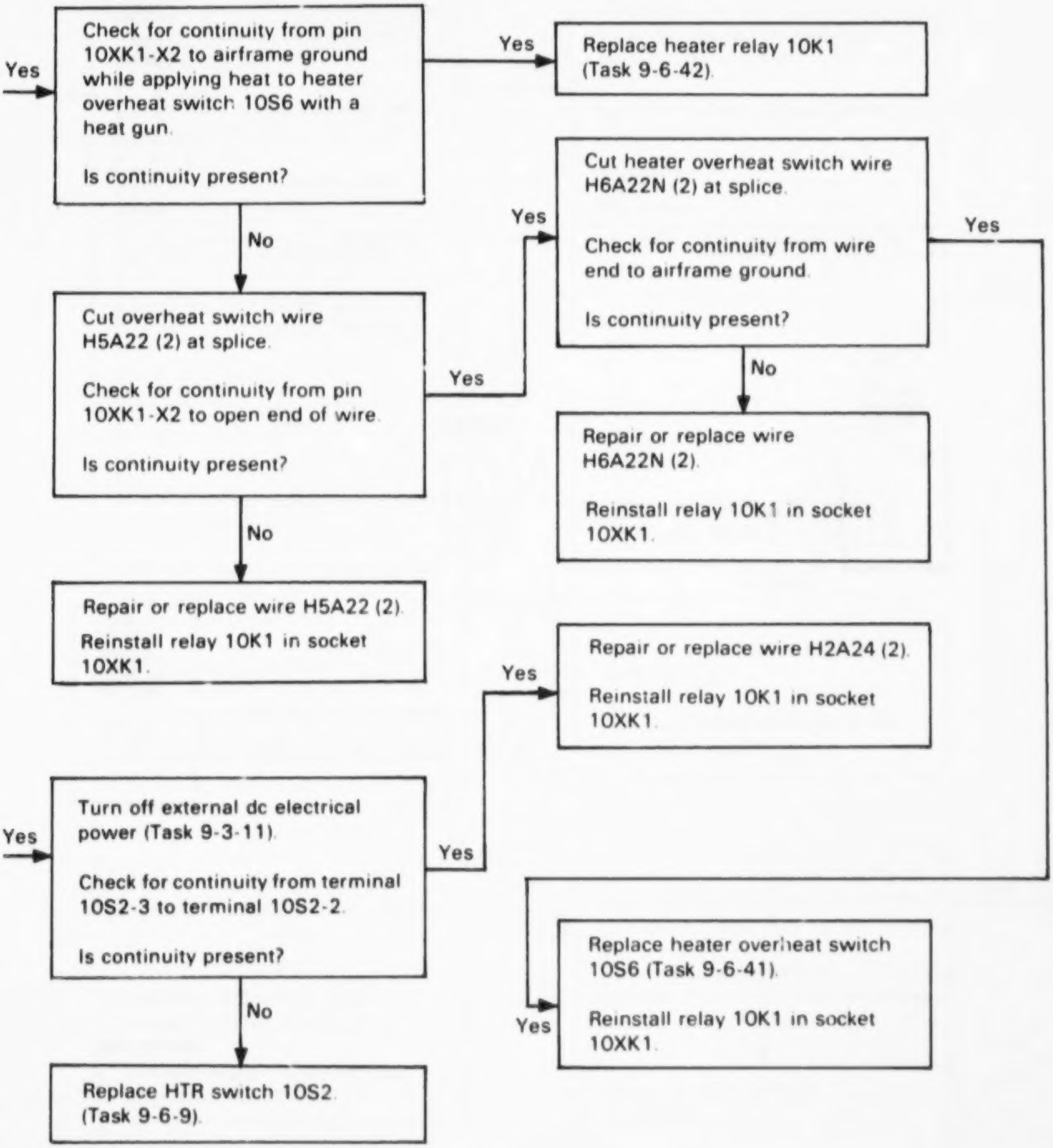
Repair or replace wire H2C24 (2).

Reinstall relay 10K1 in socket 10XK1.

Turn off external dc electrical power (Task 9-3-11).

Replace CABIN HTR circuit breaker 10CB4 (Task 9-6-7).

33. HEATER SOLENOID VALVE WILL NOT CLOSE (CONT)



Check for continuity from pin 10XK1-X2 to airframe ground while applying heat to heater overheat switch 10S6 with a heat gun.

Is continuity present?

Replace heater relay 10K1 (Task 9-6-42).

Cut heater overheat switch wire H6A22N (2) at splice.

Check for continuity from wire end to airframe ground.

Is continuity present?

Cut overheat switch wire H5A22 (2) at splice.

Check for continuity from pin 10XK1-X2 to open end of wire.

Is continuity present?

Repair or replace wire H6A22N (2).

Reinstall relay 10K1 in socket 10XK1.

Repair or replace wire H5A22 (2).

Reinstall relay 10K1 in socket 10XK1.

Repair or replace wire H2A24 (2).

Reinstall relay 10K1 in socket 10XK1.

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from terminal 10S2-3 to terminal 10S2-2.

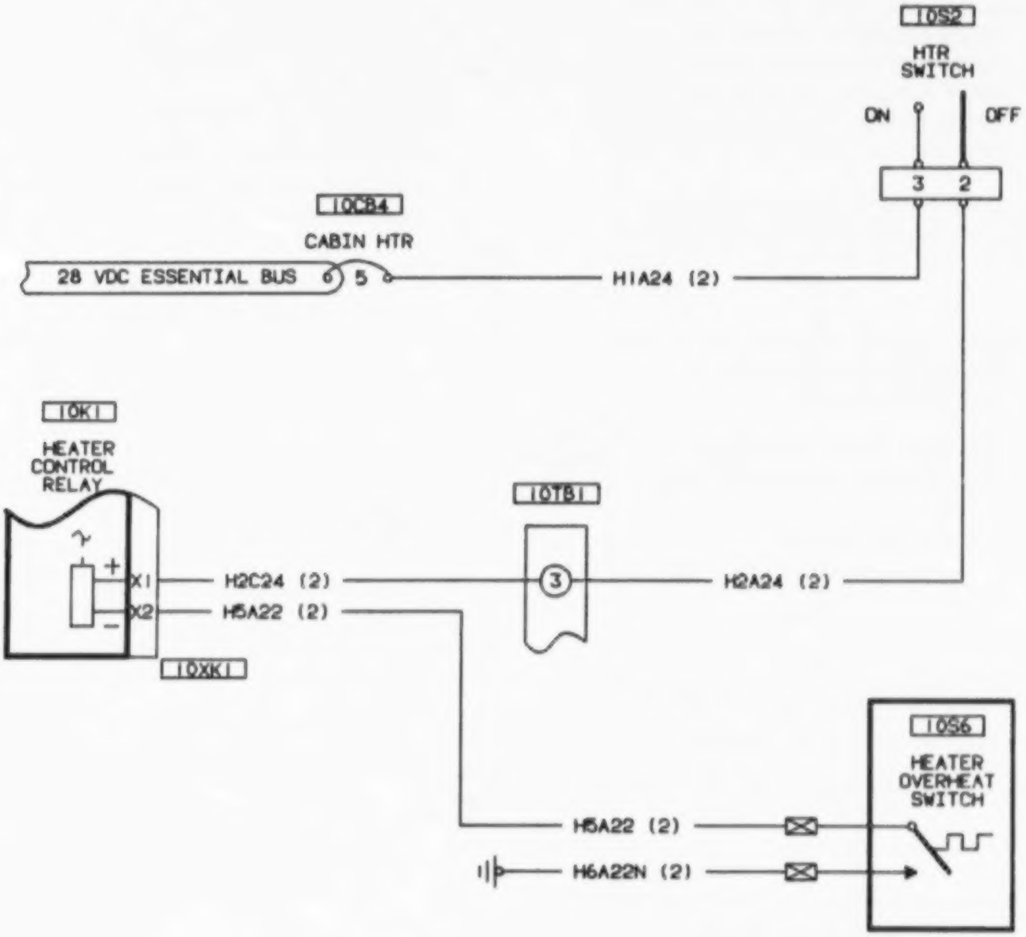
Is continuity present?

Replace heater overheat switch 10S6 (Task 9-6-41).

Reinstall relay 10K1 in socket 10XK1.

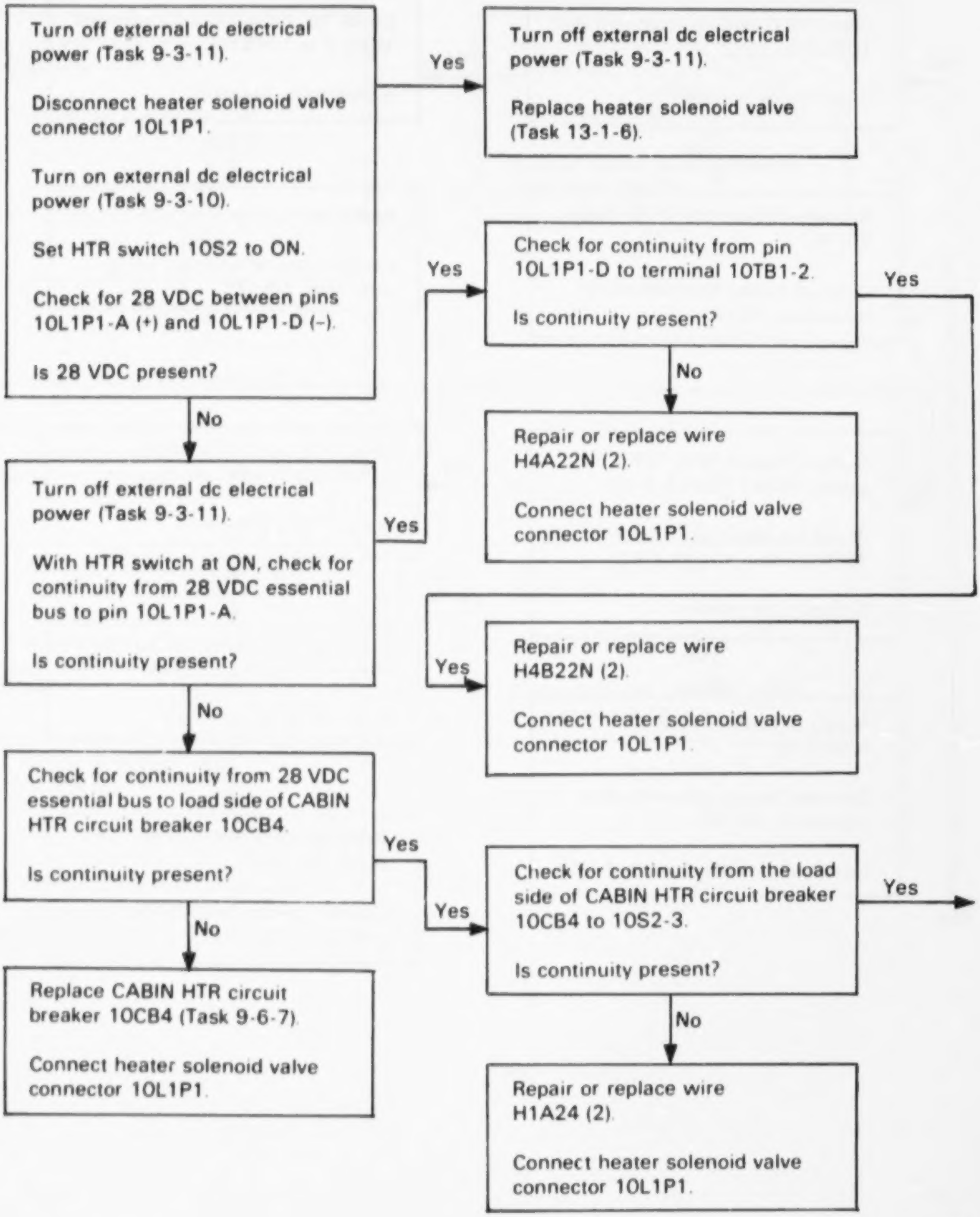
Replace HTR switch 10S2. (Task 9-6-9).

33. HEATER SOLENOID VALVE WILL NOT CLOSE (CONT)


10S2
HTR SWITCH
ON
OFF
3
2
10CB4
CABIN HTR
28 VDC ESSENTIAL BUS
6
5
H1A24 (2)
10K1
HEATER CONTROL RELAY
+
X1
X2
−
10XK1
H2C24 (2)
H5A22 (2)
10TB1
3
H2A24 (2)
10S6
HEATER OVERHEAT SWITCH
H5A22 (2)
H6A22N (2)

406475-65A

34. HEATER SOLENOID VALVE WILL NOT OPEN



Turn off external dc electrical power (Task 9-3-11).

Disconnect heater solenoid valve connector 10L1P1.

Turn on external dc electrical power (Task 9-3-10).

Set HTR switch 10S2 to ON.

Check for 28 VDC between pins 10L1P1-A (+) and 10L1P1-D (-).

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Replace heater solenoid valve (Task 13-1-6).

Turn off external dc electrical power (Task 9-3-11).

With HTR switch at ON, check for continuity from 28 VDC essential bus to pin 10L1P1-A.

Is continuity present?

Check for continuity from pin 10L1P1-D to terminal 10TB1-2.

Is continuity present?

Repair or replace wire H4A22N (2).

Connect heater solenoid valve connector 10L1P1.

Repair or replace wire H4B22N (2).

Connect heater solenoid valve connector 10L1P1.

Check for continuity from 28 VDC essential bus to load side of CABIN HTR circuit breaker 10CB4.

Is continuity present?

Replace CABIN HTR circuit breaker 10CB4 (Task 9-6-7).

Connect heater solenoid valve connector 10L1P1.

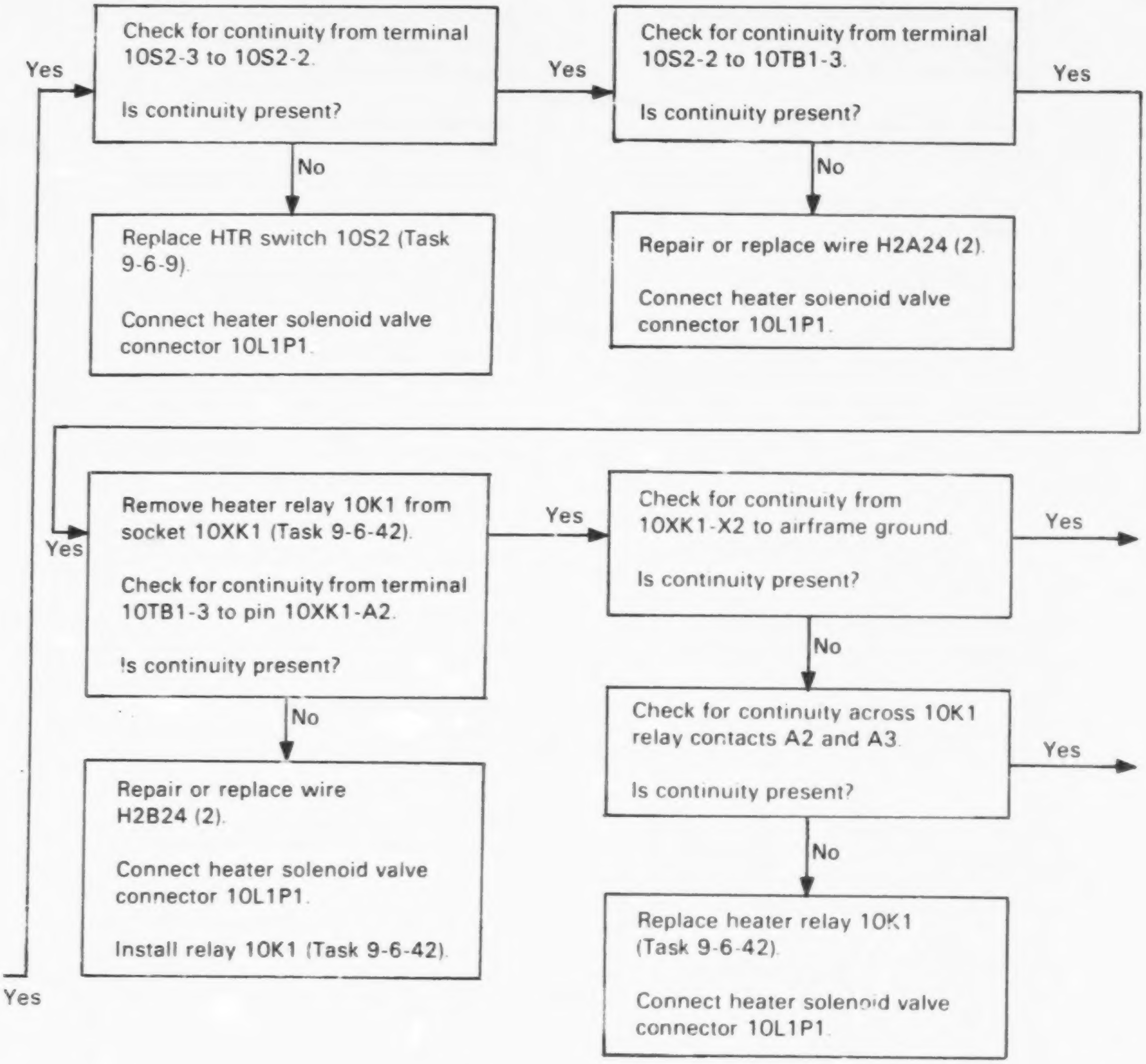
Check for continuity from the load side of CABIN HTR circuit breaker 10CB4 to 10S2-3.

Is continuity present?

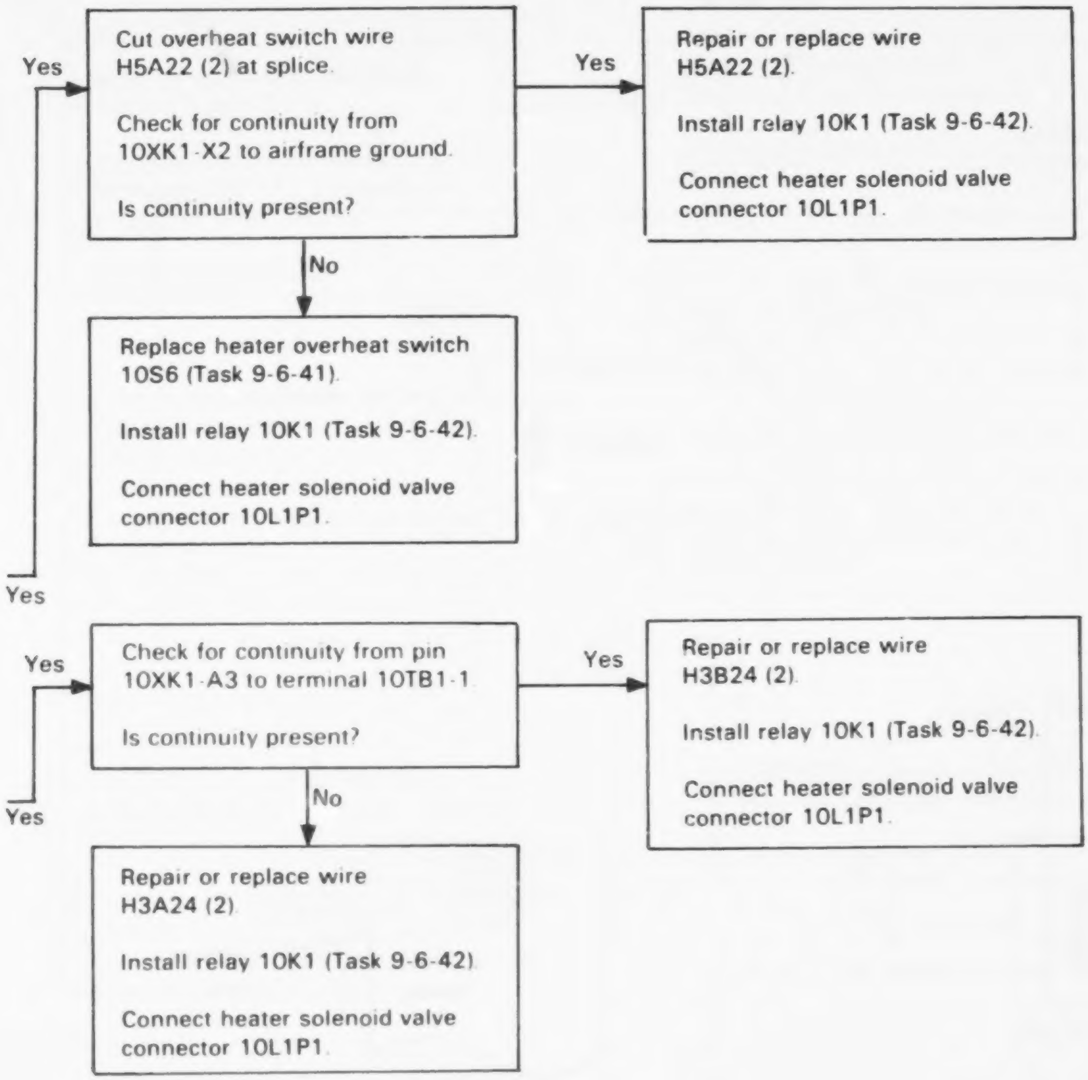
Repair or replace wire H1A24 (2).

Connect heater solenoid valve connector 10L1P1.

34. HEATER SOLENOID VALVE WILL NOT OPEN (CONT)


Check for continuity from terminal 10S2-3 to 10S2-2.
Is continuity present?
Yes
No
Replace HTR switch 10S2 (Task 9-6-9).
Connect heater solenoid valve connector 10L1P1.
Check for continuity from terminal 10S2-2 to 10TB1-3.
Is continuity present?
Yes
No
Repair or replace wire H2A24 (2).
Connect heater solenoid valve connector 10L1P1.
Yes
Remove heater relay 10K1 from socket 10XK1 (Task 9-6-42).
Check for continuity from terminal 10TB1-3 to pin 10XK1-A2.
Is continuity present?
Yes
No
Repair or replace wire H2B24 (2).
Connect heater solenoid valve connector 10L1P1.
Install relay 10K1 (Task 9-6-42).
Yes
Check for continuity from 10XK1-X2 to airframe ground.
Is continuity present?
Yes
No
Check for continuity across 10K1 relay contacts A2 and A3.
Is continuity present?
Yes
No
Replace heater relay 10K1 (Task 9-6-42).
Connect heater solenoid valve connector 10L1P1.
Yes

34. HEATER SOLENOID VALVE WILL NOT OPEN (CONT)



Cut overheat switch wire H5A22 (2) at splice.

Check for continuity from 10XK1-X2 to airframe ground.

Is continuity present?

Repair or replace wire H5A22 (2).

Install relay 10K1 (Task 9-6-42).

Connect heater solenoid valve connector 10L1P1.

Replace heater overheat switch 10S6 (Task 9-6-41).

Install relay 10K1 (Task 9-6-42).

Connect heater solenoid valve connector 10L1P1.

Check for continuity from pin 10XK1-A3 to terminal 10TB1-1.

Is continuity present?

Repair or replace wire H3B24 (2).

Install relay 10K1 (Task 9-6-42).

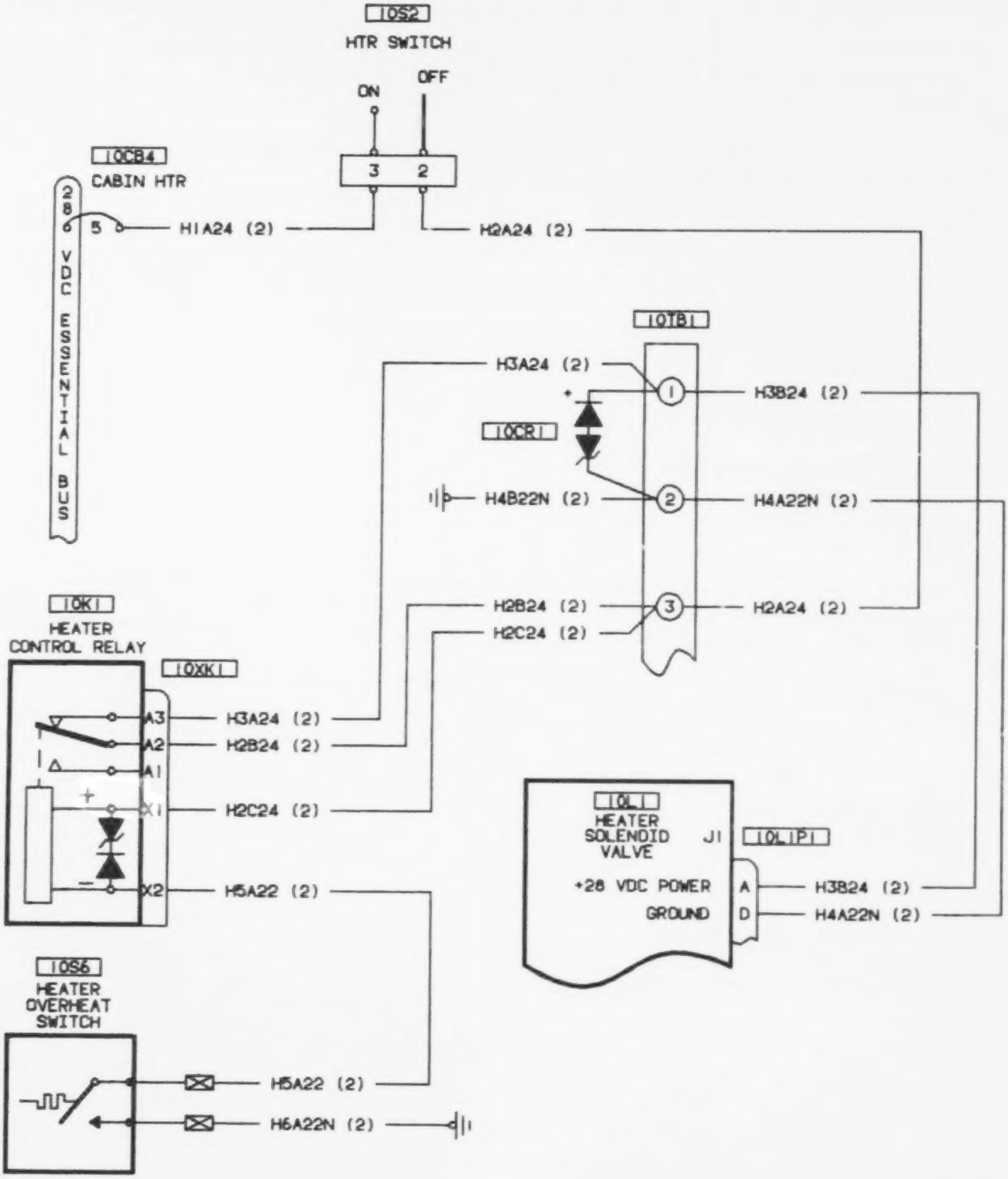
Connect heater solenoid valve connector 10L1P1.

Repair or replace wire H3A24 (2).

Install relay 10K1 (Task 9-6-42).

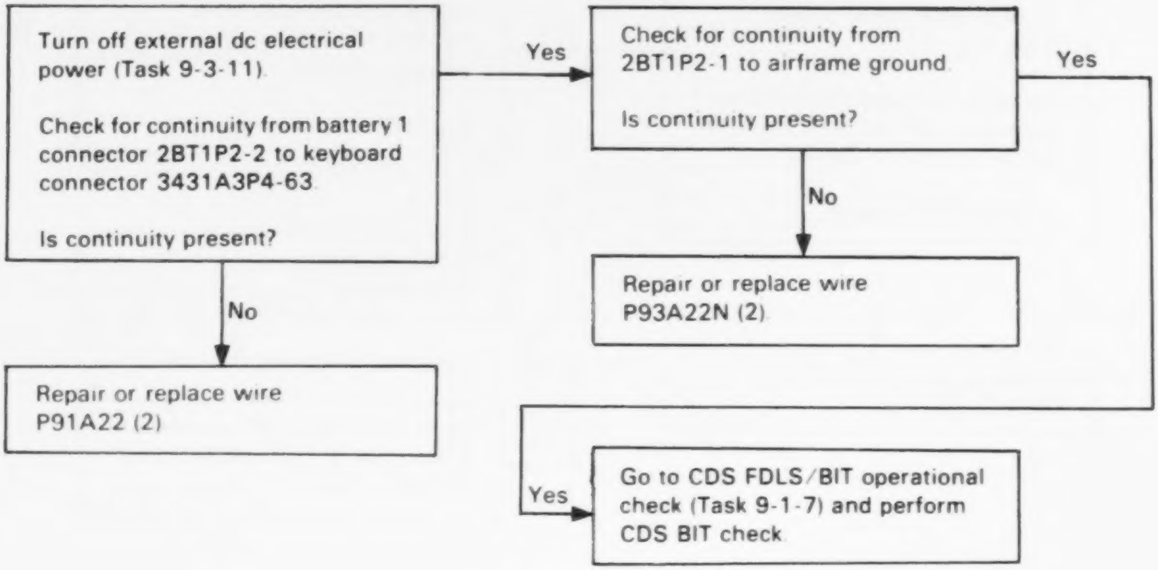
Connect heater solenoid valve connector 10L1P1.

34. HEATER SOLENOID VALVE WILL NOT OPEN (CONT)


10S2
HTR SWITCH
ON
OFF
3
2
10CB4
CABIN HTR
28 VDC ESSENTIAL BUS
5
H1A24 (2)
H2A24 (2)
10TB1
H3A24 (2)
+
1
H3B24 (2)
10CR1
H4B22N (2)
2
H4A22N (2)
H2B24 (2)
3
H2A24 (2)
H2C24 (2)
10K1
HEATER
CONTROL RELAY
10XK1
A3
A2
A1
+
X1
X2
H3A24 (2)
H2B24 (2)
H2C24 (2)
H5A22 (2)
10L1
HEATER
SOLENOID
VALVE
J1
10L1P1
+28 VDC POWER
GROUND
A
D
H3B24 (2)
H4A22N (2)
10S6
HEATER
OVERHEAT
SWITCH
H5A22 (2)
H6A22N (2)

406475-67B

35. HOT BATT 1 CAUTION MESSAGE NOT DISPLAYED ON MFD (EXTERNAL POWER AND JUMPER BETWEEN PINS 1 & 2 OF CONNECTOR 2BT1P2)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery 1 connector 2BT1P2-2 to keyboard connector 3431A3P4-63.

Is continuity present?

Repair or replace wire P91A22 (2).

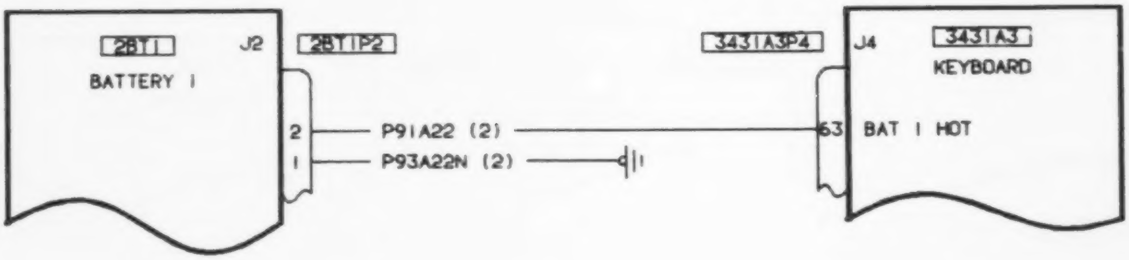
Check for continuity from 2BT1P2-1 to airframe ground.

Is continuity present?

Repair or replace wire P93A22N (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

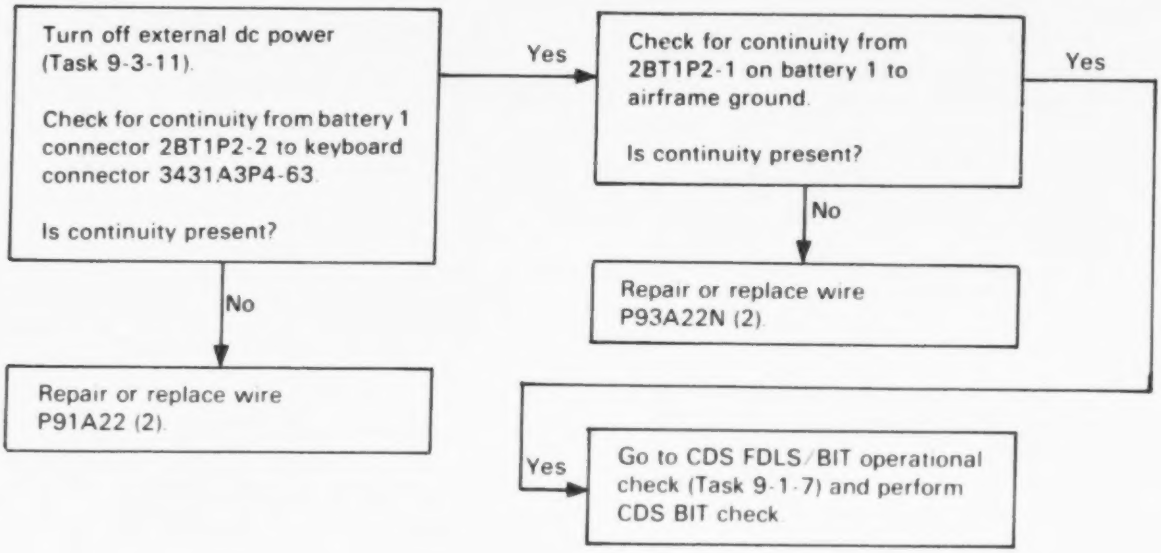
Yes
No
Yes
No
Yes



2BT1
BATTERY 1
J2
2BT1P2
2
1
P91A22 (2)
P93A22N (2)
3431A3P4
J4
3431A3
KEYBOARD
63
BAT 1 HOT

406475-47A

36. HOT BATT 1 & 2 MESSAGE NOT DISPLAYED ON MFD


Yes
No
Yes
No
Yes

Turn off external dc power (Task 9-3-11).

Check for continuity from battery 1 connector 2BT1P2-2 to keyboard connector 3431A3P4-63.

Is continuity present?

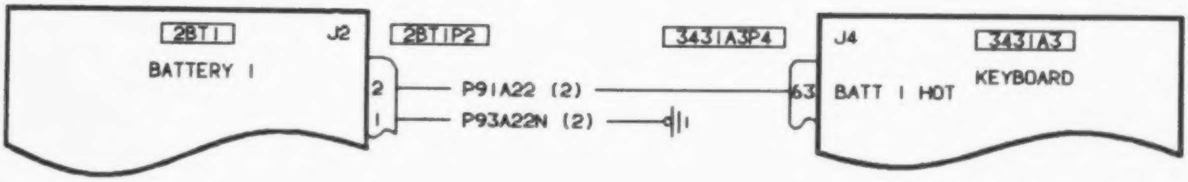
Repair or replace wire P91A22 (2).

Check for continuity from 2BT1P2-1 on battery 1 to airframe ground.

Is continuity present?

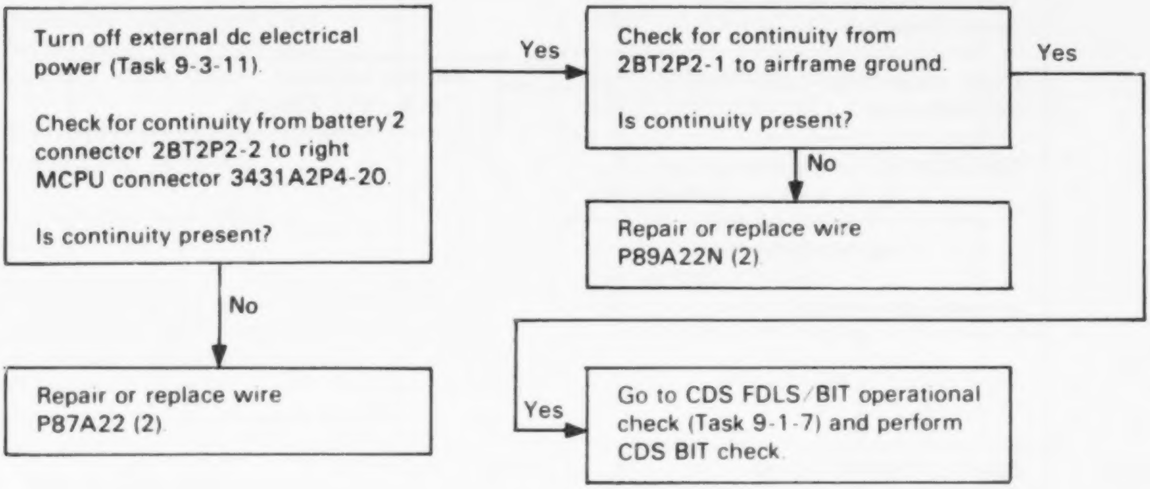
Repair or replace wire P93A22N (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.


2BT1
J2
BATTERY 1
2BT1P2
2
1
P91A22 (2)
P93A22N (2)
3431A3P4
63
J4
3431A3
BATT 1 HOT
KEYBOARD

406475-66A

37. HOT BATT 2 MESSAGE NOT DISPLAYED ON MFD


Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery 2 connector 2BT2P2-2 to right MCPU connector 3431A2P4-20.

Is continuity present?

Check for continuity from 2BT2P2-1 to airframe ground.

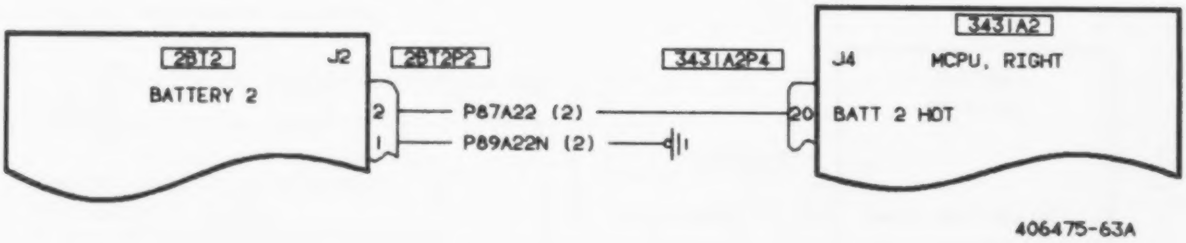
Is continuity present?

Repair or replace wire P89A22N (2).

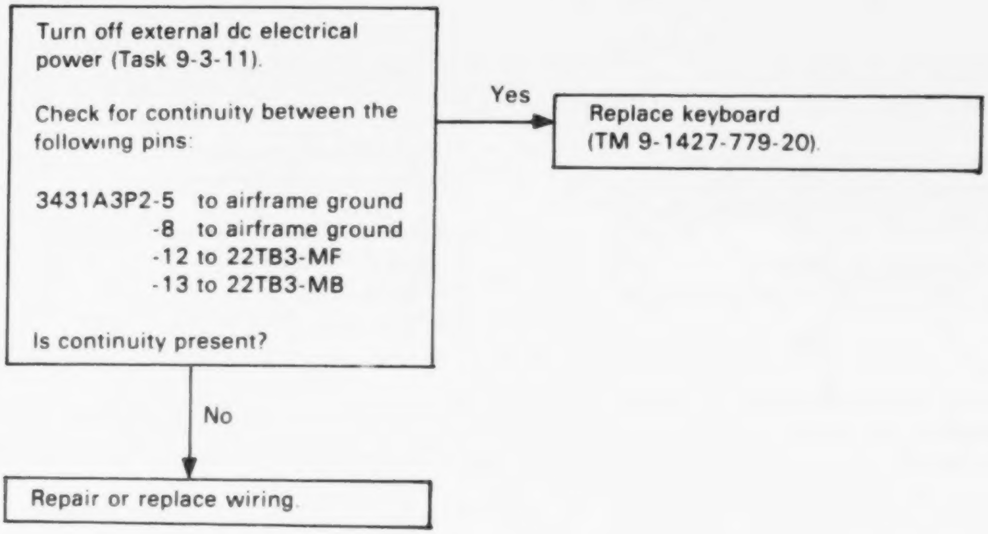
Repair or replace wire P87A22 (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Yes
No
Yes
No
Yes


2BT2
BATTERY 2
J2
2BT2P2
2
1
P87A22 (2)
P89A22N (2)
3431A2P4
3431A2
J4
MCPU, RIGHT
20
BATT 2 HOT
406475-63A

38. KEYBOARD HAS NO RESPONSE ON OPERATOR CHECKS PAGE DURING SWITCH CHECK



Turn off external dc electrical power (Task 9-3-11).

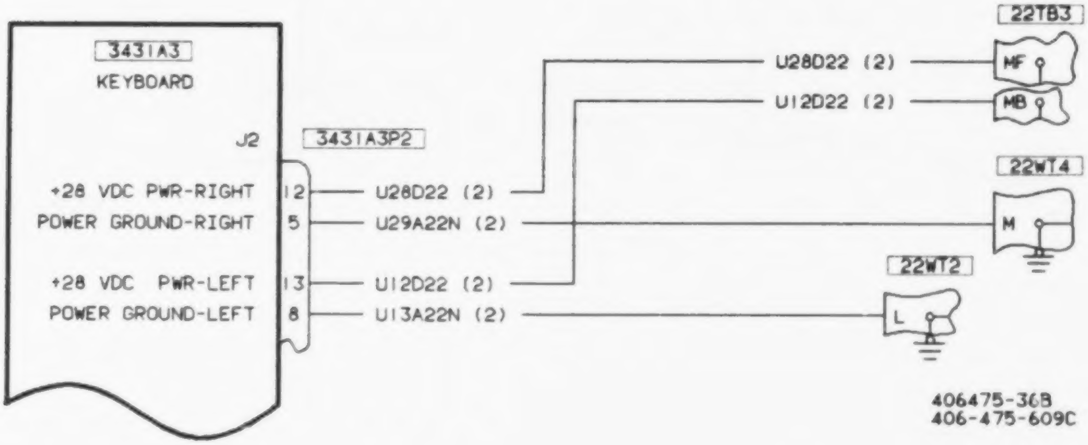
Check for continuity between the following pins:

3431A3P2-5 to airframe ground
-8 to airframe ground
-12 to 22TB3-MF
-13 to 22TB3-MB

Is continuity present?

Yes: Replace keyboard (TM 9-1427-779-20).

No: Repair or replace wiring.


3431A3
KEYBOARD
J2
3431A3P2
+28 VDC PWR-RIGHT
POWER GROUND-RIGHT
+28 VDC PWR-LEFT
POWER GROUND-LEFT
12
5
13
8
U28D22 (2)
U29A22N (2)
U12D22 (2)
U13A22N (2)
U28D22 (2)
U12D22 (2)
22TB3
MF
MB
22WT4
M
22WT2
L
406475-36B
406-475-609C

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED

Select FDL MENU page from INITIAL page. Select BIT page from FDL MENU page.

Note LRU failure indication next to MMS line select key.

Turn off electrical power (Task 9-3-11).

If any of the following failure indications are displayed, replace LRU or perform troubleshooting as indicated.

a. PWR ON FAILURE

Replace gyro electronics assembly (TM 9-1240-778-20).

b. OBS FAIL

Replace MMS signal processor (TM 9-1240-778-20).

c. GBA FAIL

Replace MMS signal processor (TM 9-1240-778-20).

d. GEA FAIL

Replace MMS power supply (TM 9-1240-778-20).

e. MSP GENERAL BIT FAIL

Replace MMS signal processor (TM 9-1240-778-20).

f. MSP771 BIT FAIL

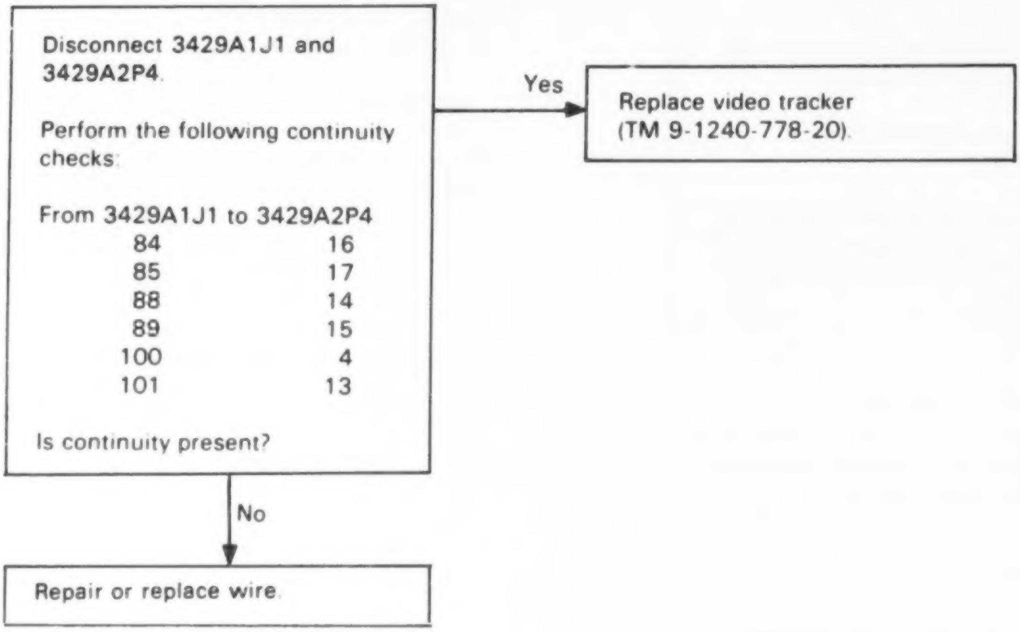
Replace MMS signal processor (TM 9-1240-778-20).

g. MCPS FAIL

Replace MMS signal processor (TM 9-1240-778-20).

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

h. TRACKER FAIL



Disconnect 3429A1J1 and 3429A2P4.

Perform the following continuity checks:

From 3429A1J1	to 3429A2P4
84	16
85	17
88	14
89	15
100	4
101	13

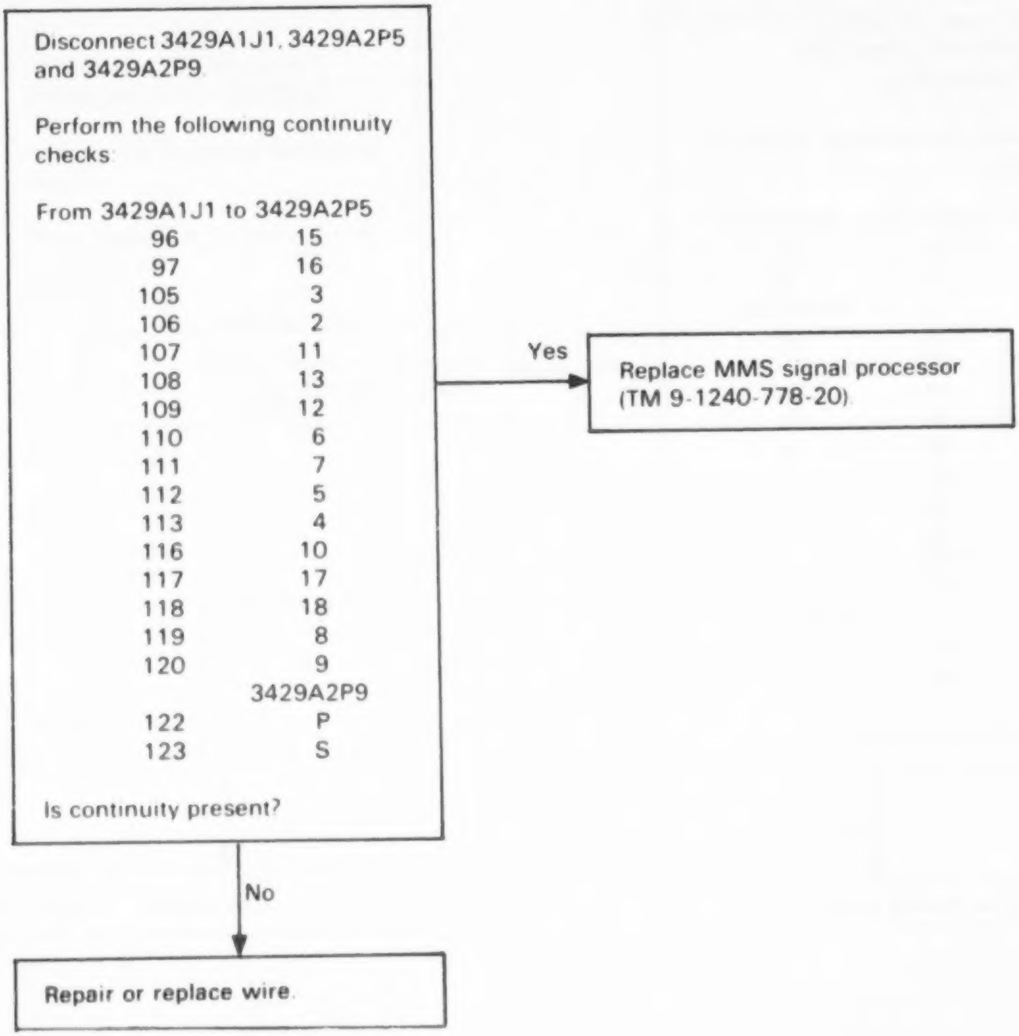
Is continuity present?

Replace video tracker (TM 9-1240-778-20).

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

i. DCS FAIL



Disconnect 3429A1J1, 3429A2P5 and 3429A2P9.

Perform the following continuity checks:

From 3429A1J1	to 3429A2P5
96	15
97	16
105	3
106	2
107	11
108	13
109	12
110	6
111	7
112	5
113	4
116	10
117	17
118	18
119	8
120	9
	3429A2P9
122	P
123	S

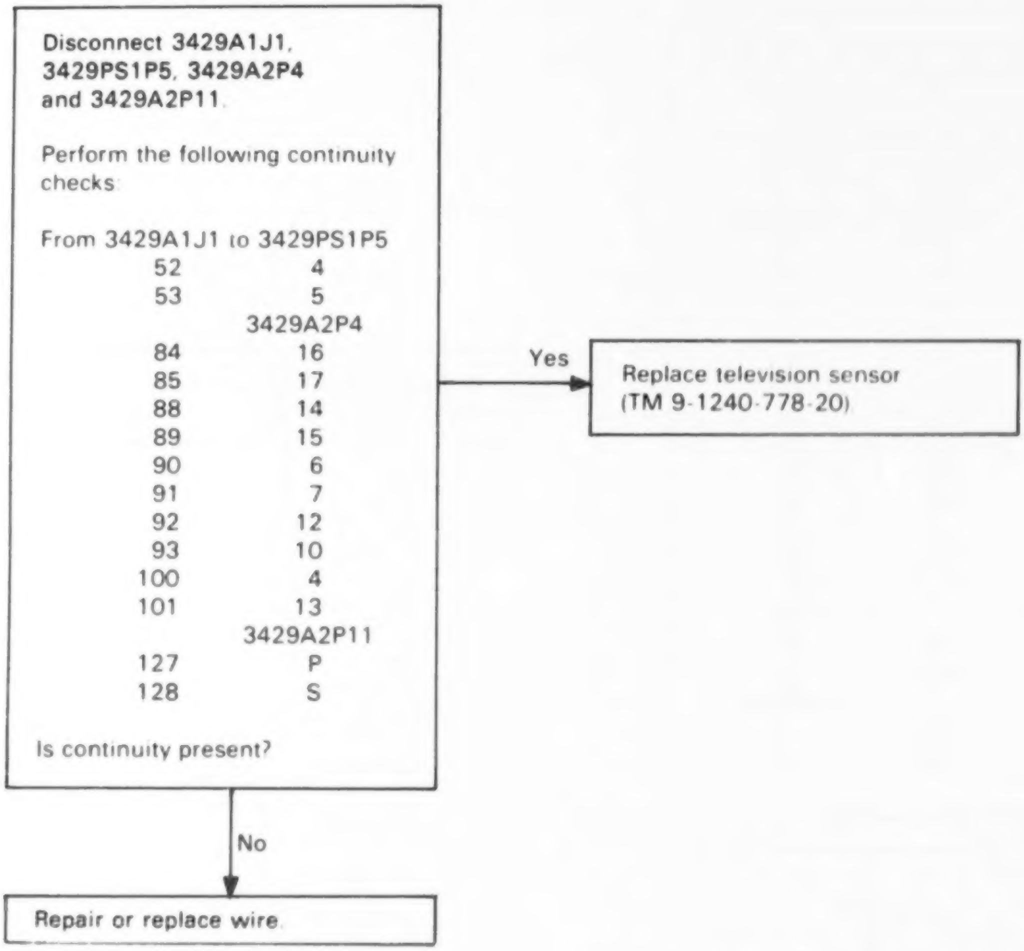
Is continuity present?

Replace MMS signal processor (TM 9-1240-778-20).

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

j. TV FAIL



Disconnect 3429A1J1, 3429PS1P5, 3429A2P4 and 3429A2P11.

Perform the following continuity checks:

From 3429A1J1 to 3429PS1P5

3429A1J1	3429PS1P5
52	4
53	5
	3429A2P4
84	16
85	17
88	14
89	15
90	6
91	7
92	12
93	10
100	4
101	13
	3429A2P11
127	P
128	S

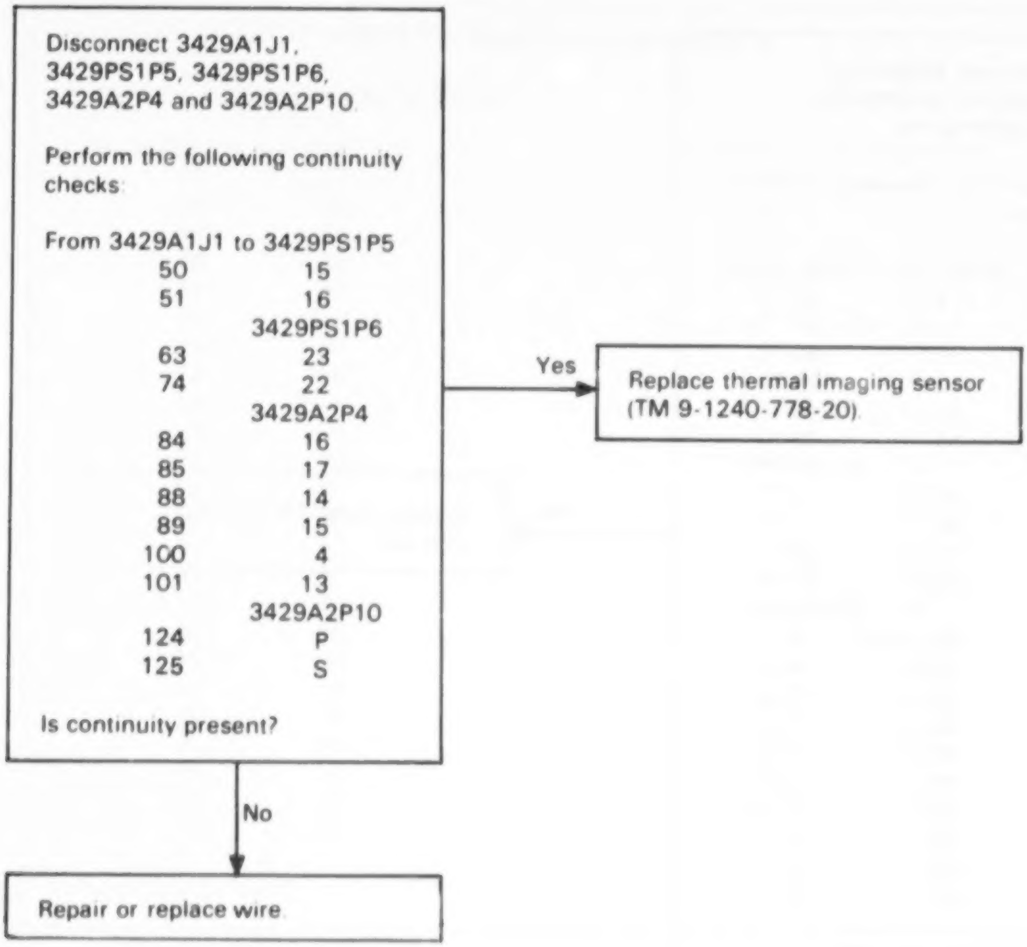
Is continuity present?

Replace television sensor (TM 9-1240-778-20)

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

k. TIS FAIL



Disconnect 3429A1J1, 3429PS1P5, 3429PS1P6, 3429A2P4 and 3429A2P10.

Perform the following continuity checks:

From 3429A1J1	to 3429PS1P5
50	15
51	16
	3429PS1P6
63	23
74	22
	3429A2P4
84	16
85	17
88	14
89	15
100	4
101	13
	3429A2P10
124	P
125	S

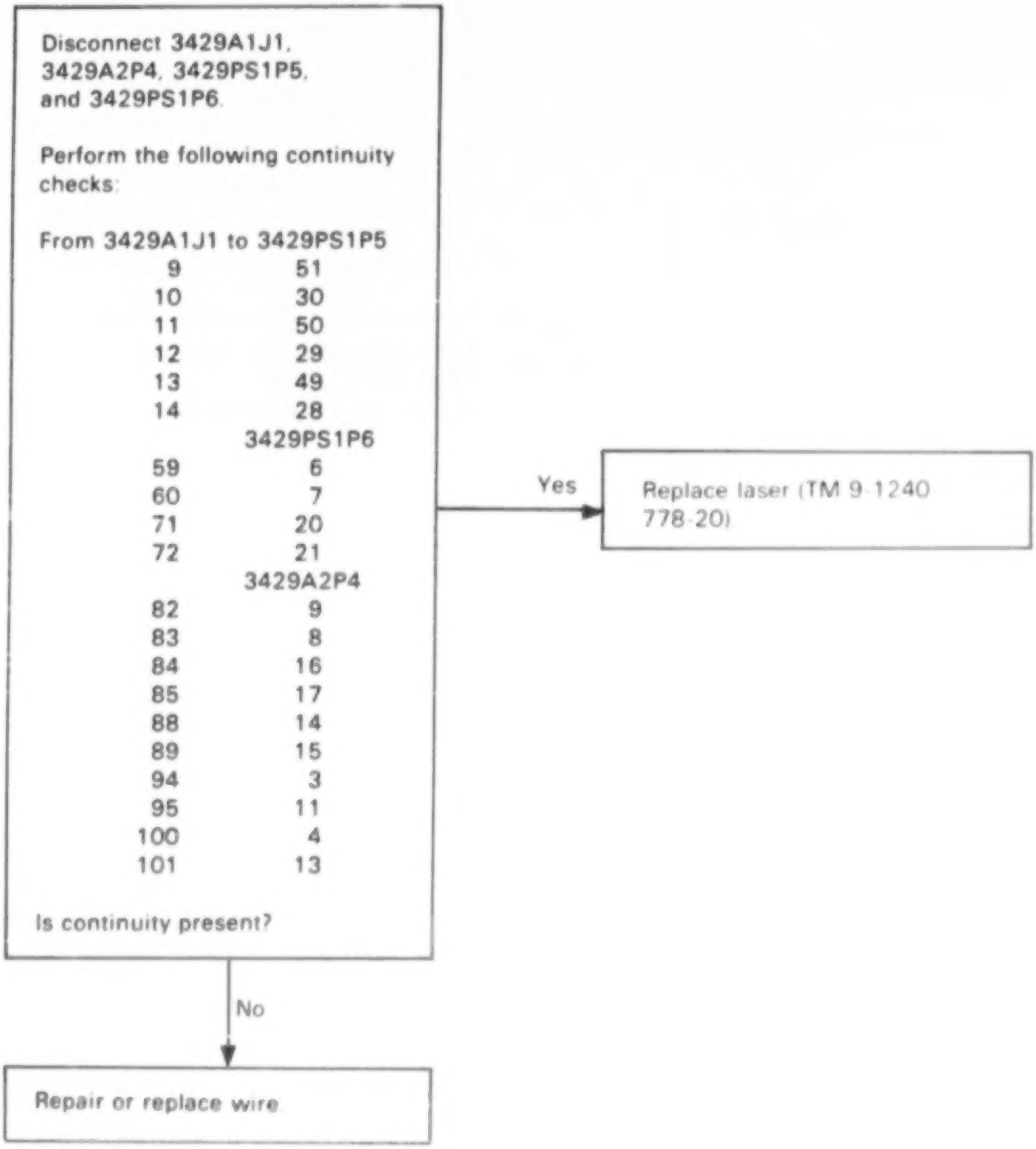
Is continuity present?

Replace thermal imaging sensor (TM 9-1240-778-20).

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

I LASER FAIL



Disconnect 3429A1J1, 3429A2P4, 3429PS1P5, and 3429PS1P6.

Perform the following continuity checks:

From 3429A1J1	to 3429PS1P5
9	51
10	30
11	50
12	29
13	49
14	28
	3429PS1P6
59	6
60	7
71	20
72	21
	3429A2P4
82	9
83	8
84	16
85	17
88	14
89	15
94	3
95	11
100	4
101	13

Is continuity present?

Yes

Replace laser (TM 9-1240-778-20)

No

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

m TURRET FAIL

Disconnect 3429A1J1, 3429PS1P5, 3429PS1P6 and 3429A2P4.

Perform the following continuity checks:

From 3429A1J1	to 3429PS1P5
17	21
18	22
19	38
20	39
21	17
22	18
23	34
24	35
26	6
27	7
28	23
29	24
30	40
31	41
32	19
33	20
34	36
35	37
38	8
39	9
40	25
41	26
42	42
43	43

From 3429A1J1	to 3429PS1P6
48	18
49	19
54	14
55	15
56	29
57	16
58	17
67	30
68	31
69	11
70	12
71	20
72	21
79	32
80	25
81	26
	3429A2P4
84	16
85	17
88	14
89	15
100	4
101	13

Is continuity present?

No

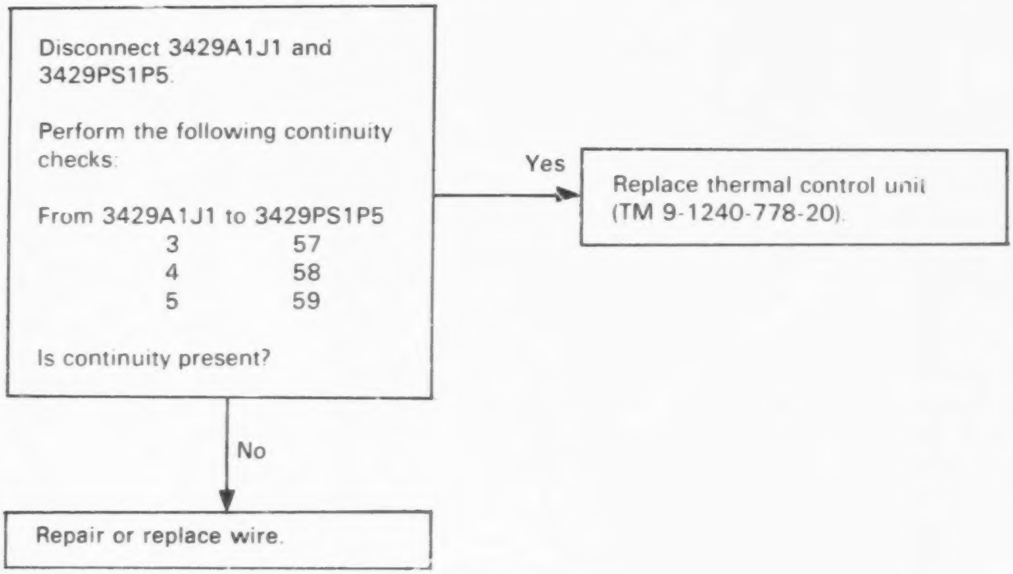
Repair or replace wire

Yes

Replace turret assembly (TM 9-1240-778-20)

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

n. TCU FAiL



Disconnect 3429A1J1 and 3429PS1P5.

Perform the following continuity checks:

From 3429A1J1	to 3429PS1P5
3	57
4	58
5	59

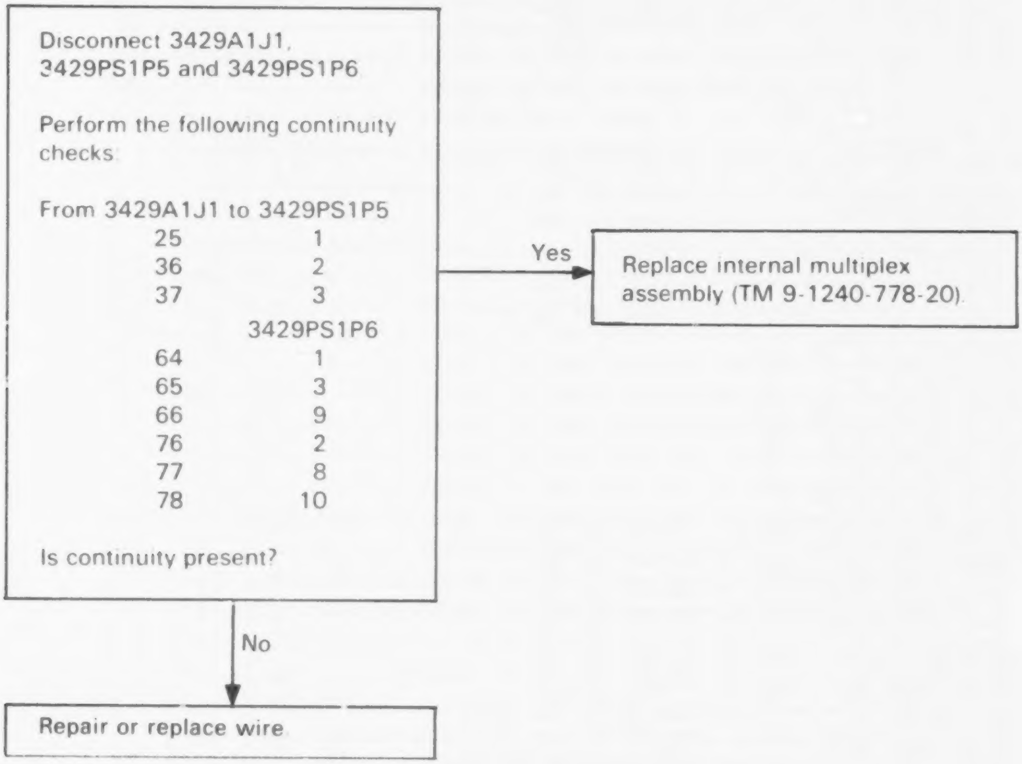
Is continuity present?

Replace thermal control unit (TM 9-1240-778-20).

Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)

o. IMUX FAIL



Disconnect 3429A1J1, 3429PS1P5 and 3429PS1P6

Perform the following continuity checks:

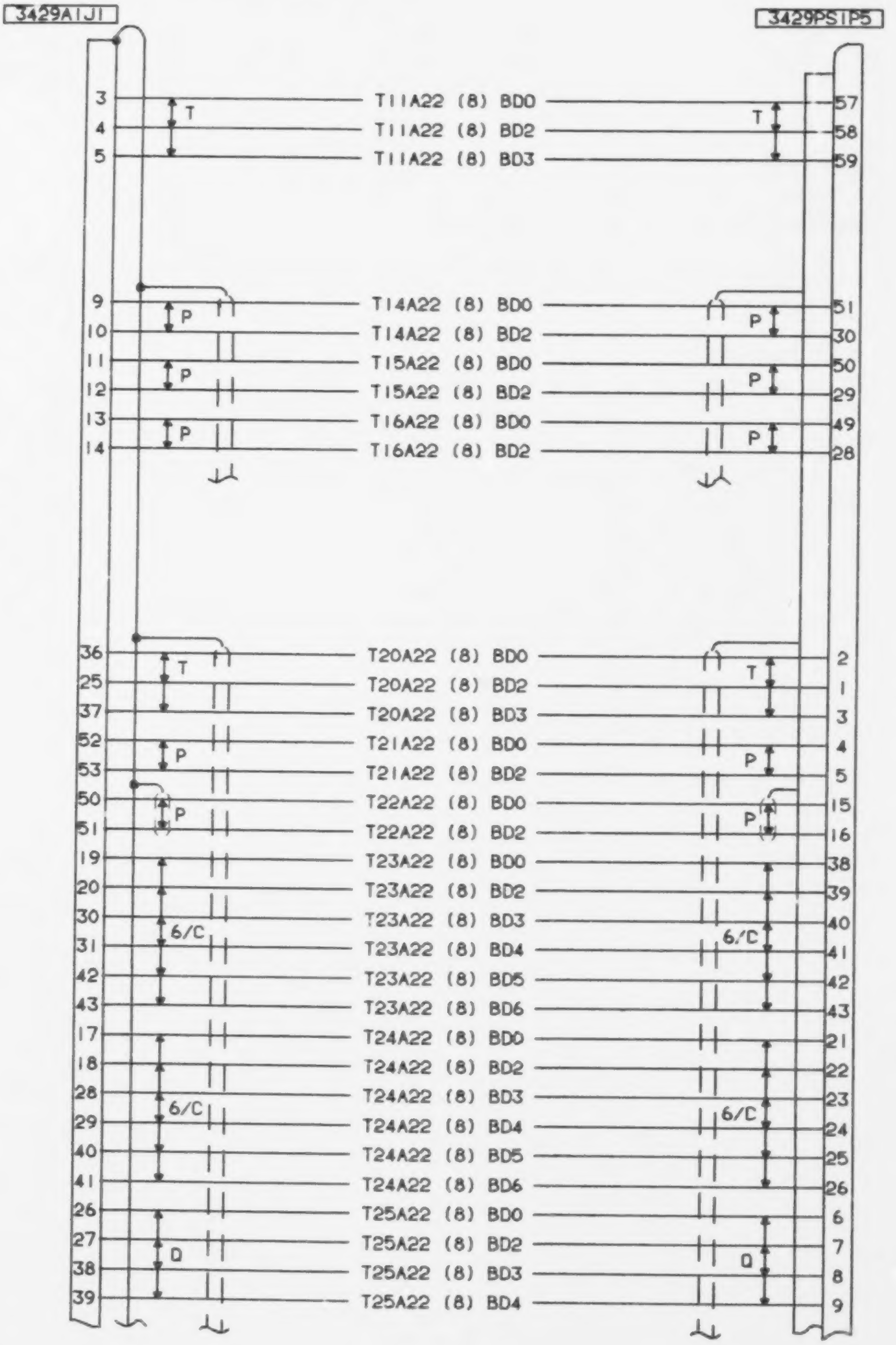
From 3429A1J1	to 3429PS1P5
25	1
36	2
37	3
	3429PS1P6
64	1
65	3
66	9
76	2
77	8
78	10

Is continuity present?

Replace internal multiplex assembly (TM 9-1240-778-20).

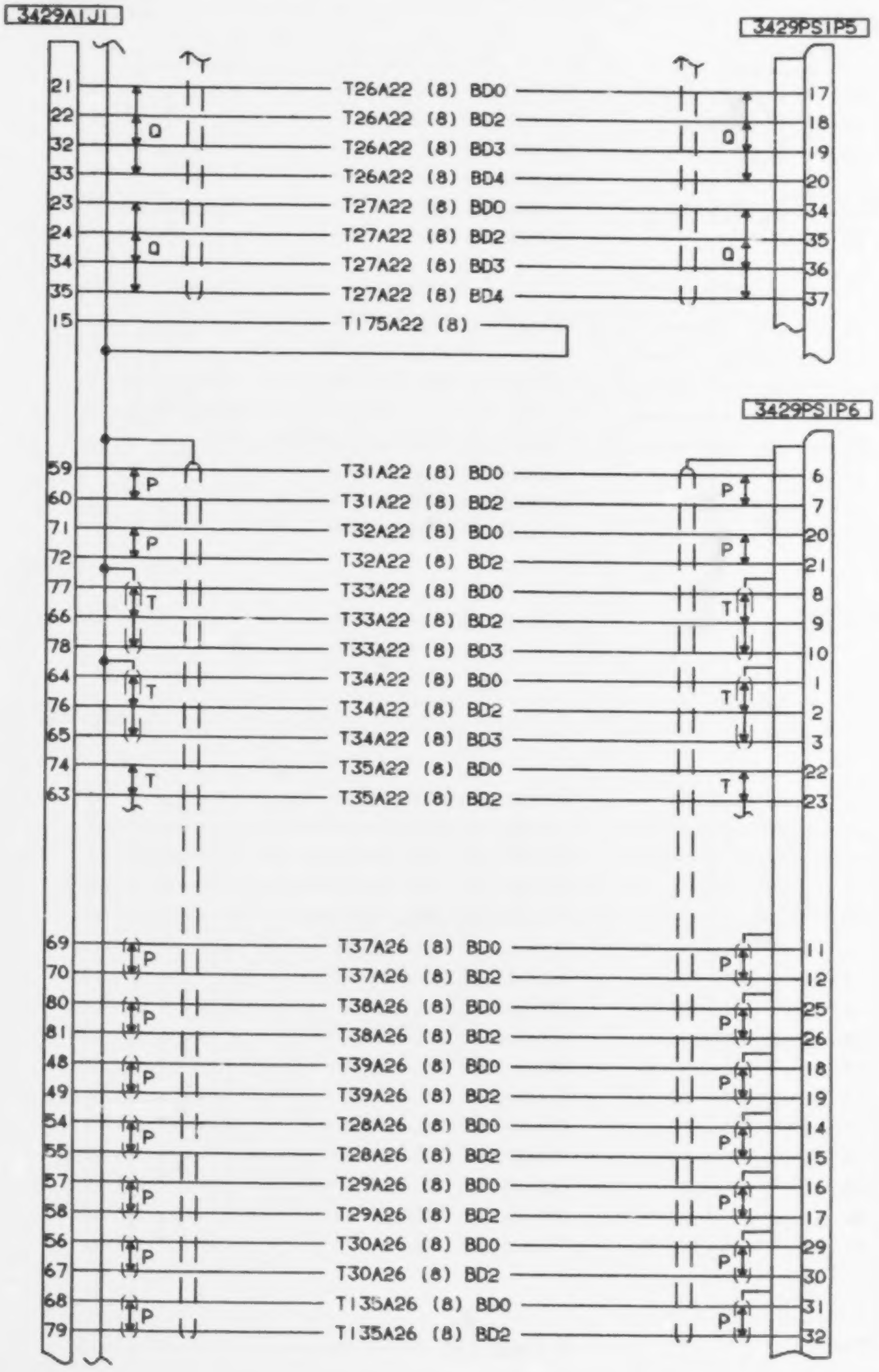
Repair or replace wire.

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)


3429A1J1
3429PS1P5
3 T11A22 (8) BD0 57
4 T11A22 (8) BD2 58
5 T11A22 (8) BD3 59
T
9 T14A22 (8) BD0 51
10 T14A22 (8) BD2 30
11 T15A22 (8) BD0 50
12 T15A22 (8) BD2 29
13 T16A22 (8) BD0 49
14 T16A22 (8) BD2 28
P
36 T20A22 (8) BD0 2
25 T20A22 (8) BD2 1
37 T20A22 (8) BD3 3
52 T21A22 (8) BD0 4
53 T21A22 (8) BD2 5
50 T22A22 (8) BD0 15
51 T22A22 (8) BD2 16
19 T23A22 (8) BD0 38
20 T23A22 (8) BD2 39
30 T23A22 (8) BD3 40
31 T23A22 (8) BD4 41
42 T23A22 (8) BD5 42
43 T23A22 (8) BD6 43
17 T24A22 (8) BD0 21
18 T24A22 (8) BD2 22
28 T24A22 (8) BD3 23
29 T24A22 (8) BD4 24
40 T24A22 (8) BD5 25
41 T24A22 (8) BD6 26
26 T25A22 (8) BD0 6
27 T25A22 (8) BD2 7
38 T25A22 (8) BD3 8
39 T25A22 (8) BD4 9
6/C
Q

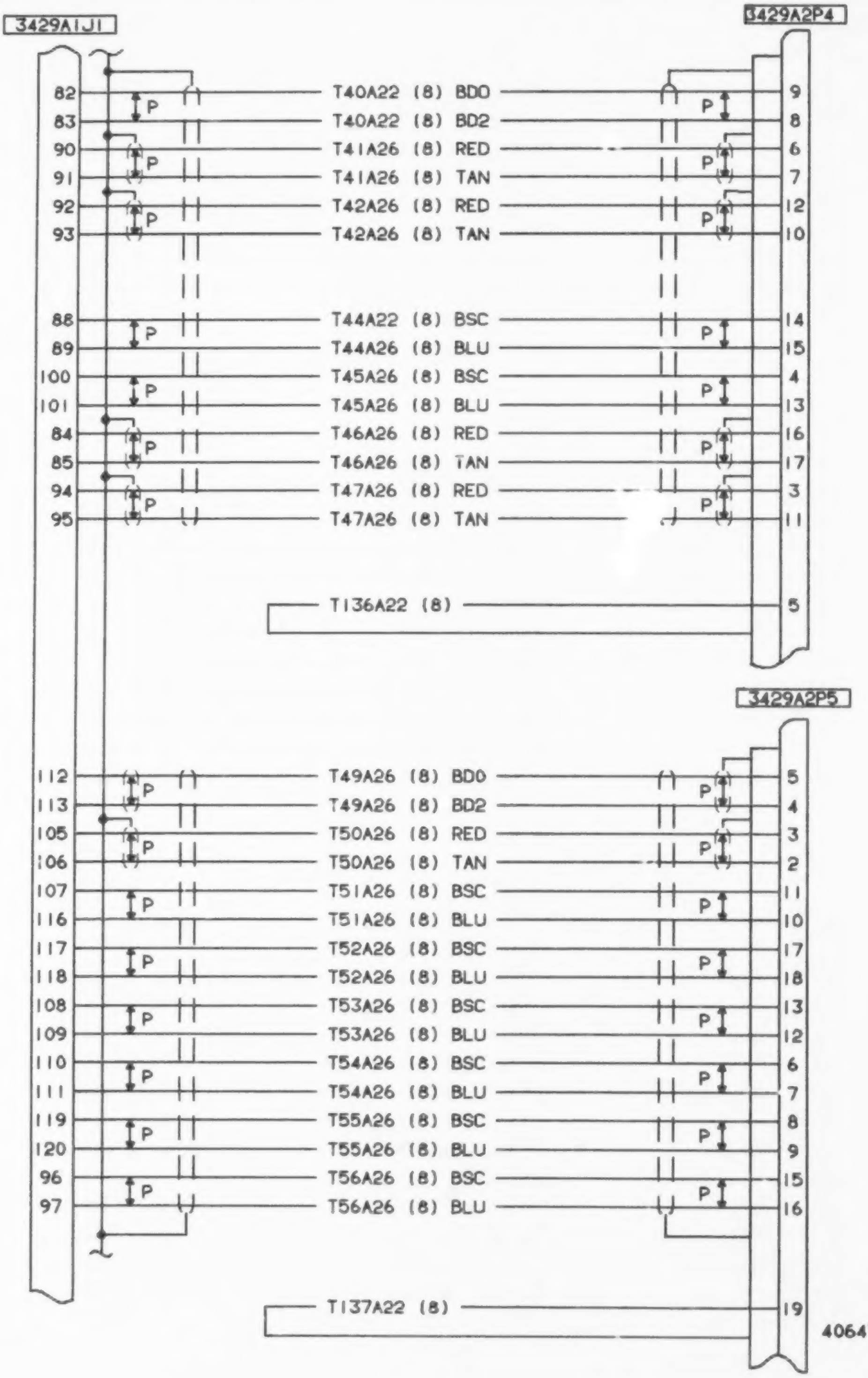
406475-29-1A

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)


3429A1J1
3429PS1P5
3429PS1P6
21 T26A22 (8) BD0 17
22 T26A22 (8) BD2 18
32 T26A22 (8) BD3 19
33 T26A22 (8) BD4 20
23 T27A22 (8) BD0 34
24 T27A22 (8) BD2 35
34 T27A22 (8) BD3 36
35 T27A22 (8) BD4 37
15 T175A22 (8)
Q
59 T31A22 (8) BD0 6
60 T31A22 (8) BD2 7
71 T32A22 (8) BD0 20
72 T32A22 (8) BD2 21
77 T33A22 (8) BD0 8
66 T33A22 (8) BD2 9
78 T33A22 (8) BD3 10
64 T34A22 (8) BD0 1
76 T34A22 (8) BD2 2
65 T34A22 (8) BD3 3
74 T35A22 (8) BD0 22
63 T35A22 (8) BD2 23
69 T37A26 (8) BD0 11
70 T37A26 (8) BD2 12
80 T38A26 (8) BD0 25
81 T38A26 (8) BD2 26
48 T39A26 (8) BD0 18
49 T39A26 (8) BD2 19
54 T28A26 (8) BD0 14
55 T28A26 (8) BD2 15
57 T29A26 (8) BD0 16
58 T29A26 (8) BD2 17
56 T30A26 (8) BD0 29
67 T30A26 (8) BD2 30
68 T135A26 (8) BD0 31
79 T135A26 (8) BD2 32
P
T

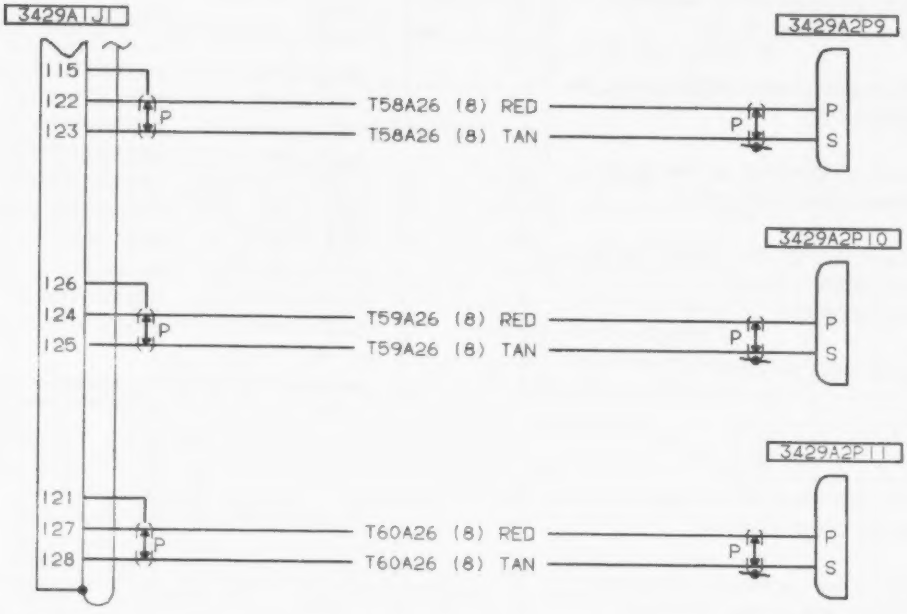
406475-29-2A

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)


3429A1J1
3429A2P4
3429A2P5
82 T40A22 (8) BD0 9
83 T40A22 (8) BD2 8
90 T41A26 (8) RED 6
91 T41A26 (8) TAN 7
92 T42A26 (8) RED 12
93 T42A26 (8) TAN 10
88 T44A22 (8) BSC 14
89 T44A26 (8) BLU 15
100 T45A26 (8) BSC 4
101 T45A26 (8) BLU 13
84 T46A26 (8) RED 16
85 T46A26 (8) TAN 17
94 T47A26 (8) RED 3
95 T47A26 (8) TAN 11
T136A22 (8) 5
112 T49A26 (8) BD0 5
113 T49A26 (8) BD2 4
105 T50A26 (8) RED 3
106 T50A26 (8) TAN 2
107 T51A26 (8) BSC 11
116 T51A26 (8) BLU 10
117 T52A26 (8) BSC 17
118 T52A26 (8) BLU 18
108 T53A26 (8) BSC 13
109 T53A26 (8) BLU 12
110 T54A26 (8) BSC 6
111 T54A26 (8) BLU 7
119 T55A26 (8) BSC 8
120 T55A26 (8) BLU 9
96 T56A26 (8) BSC 15
97 T56A26 (8) BLU 16
T137A22 (8) 19
P

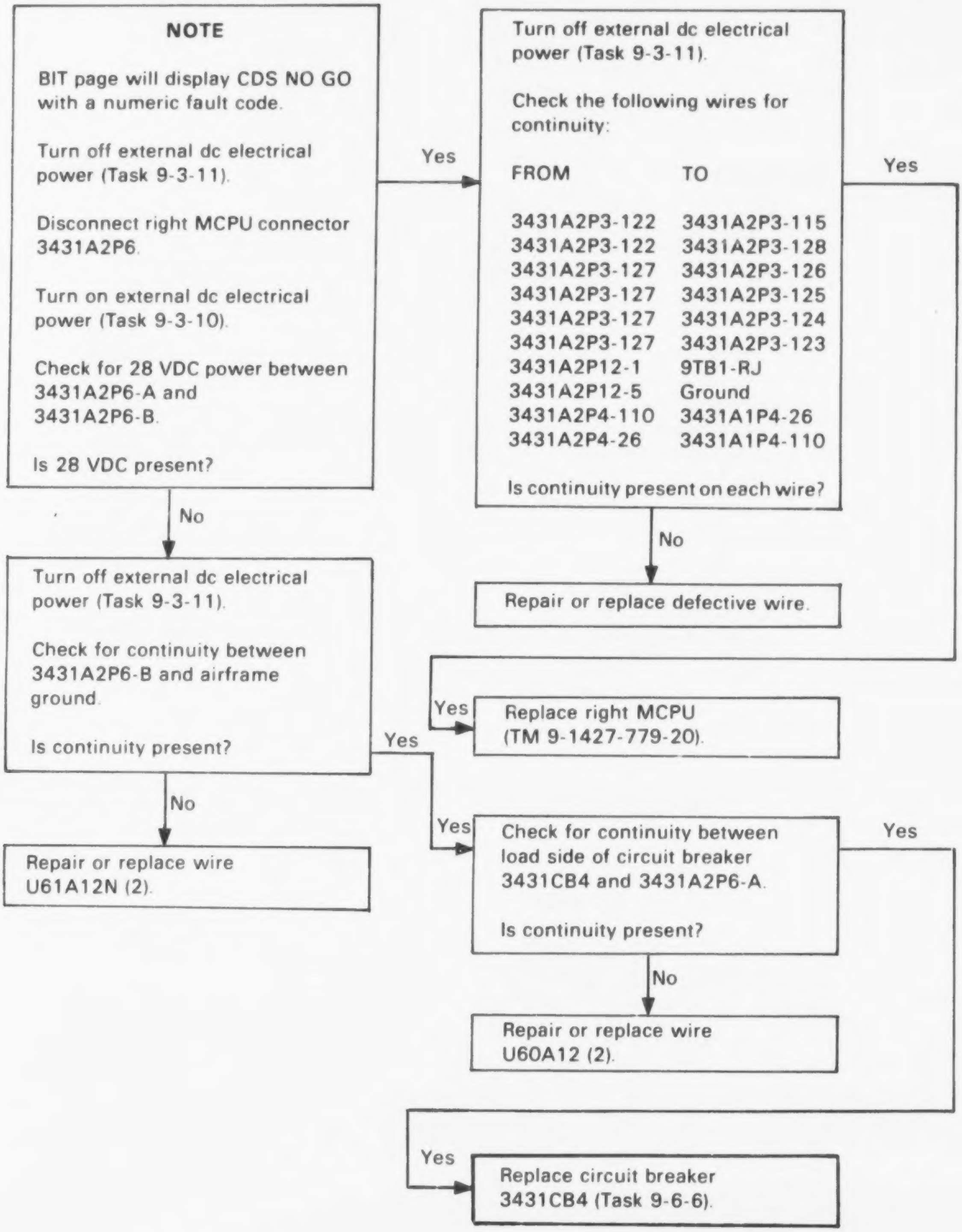
406475-29-3A

39. MMS UP ADVISORY MESSAGE IS NOT DISPLAYED ON MFD AND MMS FAIL IS DISPLAYED (CONT)


3429A1J1
115
122
123
126
124
125
121
127
128
P
T58A26 (8) RED
T58A26 (8) TAN
T59A26 (8) RED
T59A26 (8) TAN
T60A26 (8) RED
T60A26 (8) TAN
3429A2P9
3429A2P10
3429A2P11
P
S

406475-29-4

40. MFD BIT PAGE, CDS FAULT CODE 01 IS DISPLAYED (RIGHT MCPU FAILED)



NOTE

BIT page will display CDS NO GO with a numeric fault code.

Turn off external dc electrical power (Task 9-3-11).

Disconnect right MCPU connector 3431A2P6.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC power between 3431A2P6-A and 3431A2P6-B.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity:

FROM	TO
3431A2P3-122	3431A2P3-115
3431A2P3-122	3431A2P3-128
3431A2P3-127	3431A2P3-126
3431A2P3-127	3431A2P3-125
3431A2P3-127	3431A2P3-124
3431A2P3-127	3431A2P3-123
3431A2P12-1	9TB1-RJ
3431A2P12-5	Ground
3431A2P4-110	3431A1P4-26
3431A2P4-26	3431A1P4-110

Is continuity present on each wire?

Repair or replace defective wire.

Turn off external dc electrical power (Task 9-3-11).

Check for continuity between 3431A2P6-B and airframe ground.

Is continuity present?

Replace right MCPU (TM 9-1427-779-20).

Repair or replace wire U61A12N (2).

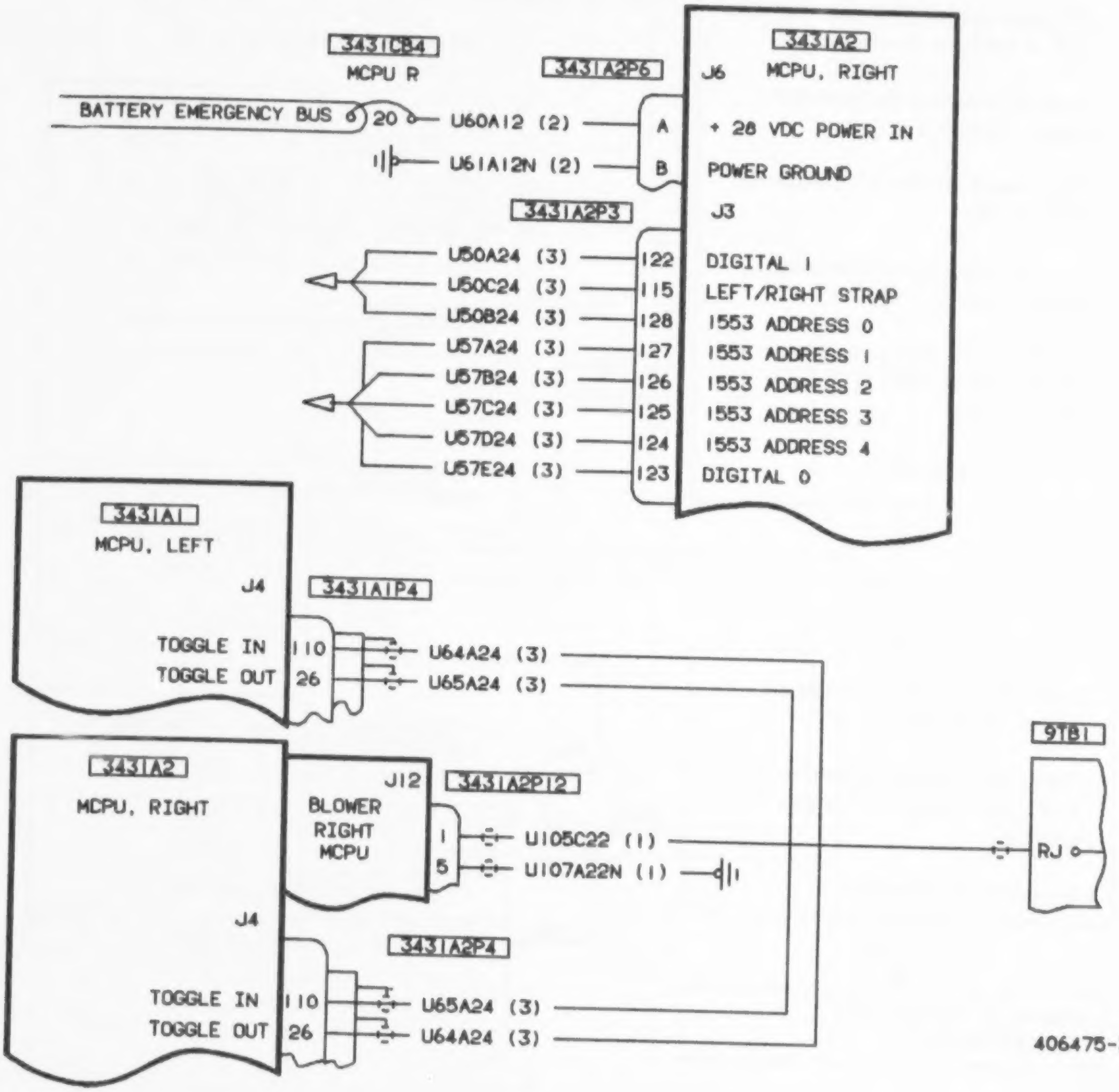
Check for continuity between load side of circuit breaker 3431CB4 and 3431A2P6-A.

Is continuity present?

Repair or replace wire U60A12 (2).

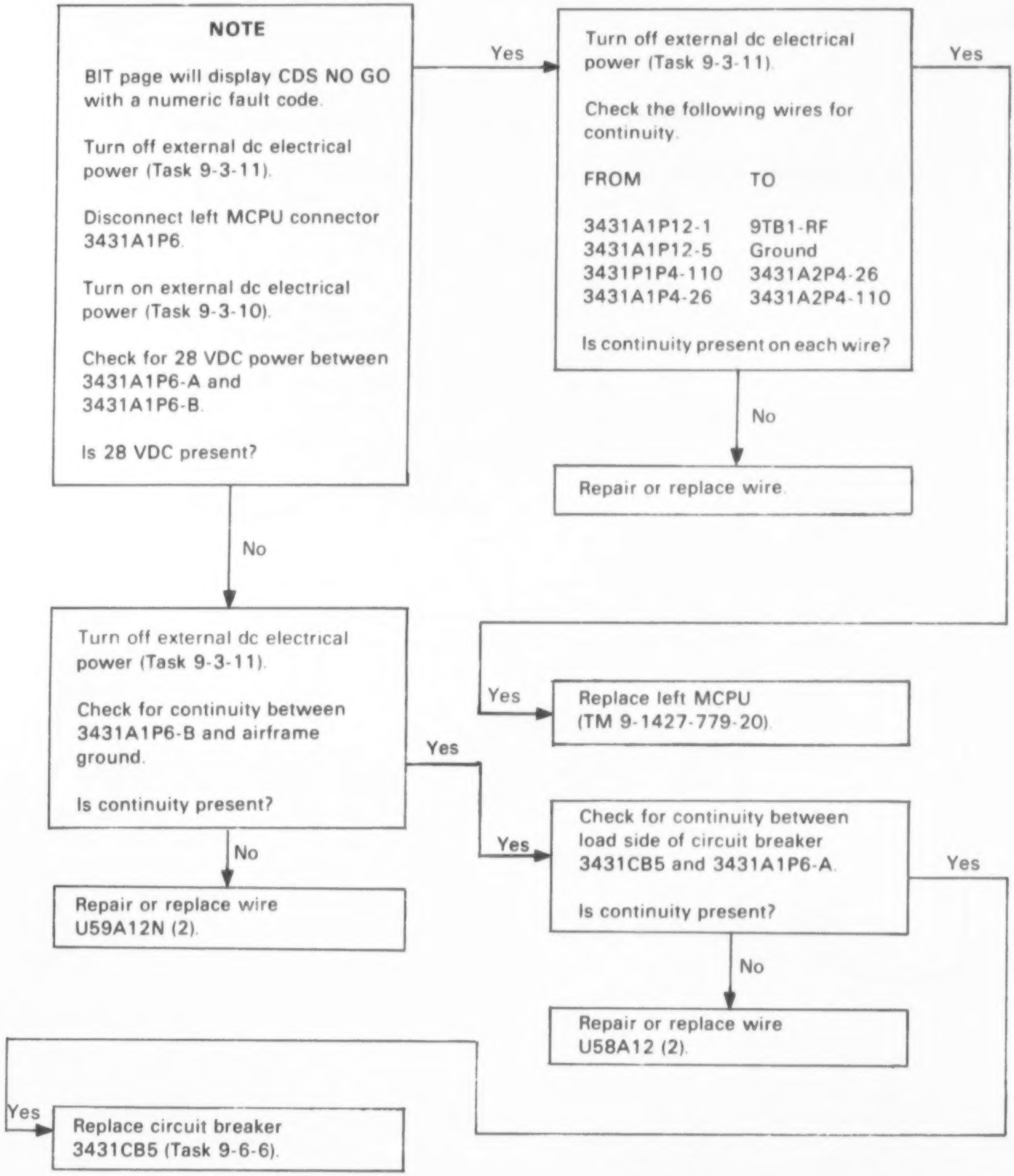
Replace circuit breaker 3431CB4 (Task 9-6-6).

40. MFD BIT PAGE, CDS FAULT CODE 01 IS DISPLAYED (RIGHT MCPU FAILED) (CONT)


3431CB4
MCPU R
BATTERY EMERGENCY BUS
20
U60A12 (2)
U61A12N (2)
3431A2P6
J6
3431A2
MCPU, RIGHT
A
+ 28 VDC POWER IN
B
POWER GROUND
3431A2P3
J3
U50A24 (3)
U50C24 (3)
U50B24 (3)
U57A24 (3)
U57B24 (3)
U57C24 (3)
U57D24 (3)
U57E24 (3)
122
115
128
127
126
125
124
123
DIGITAL 1
LEFT/RIGHT STRAP
1553 ADDRESS 0
1553 ADDRESS 1
1553 ADDRESS 2
1553 ADDRESS 3
1553 ADDRESS 4
DIGITAL 0
3431A1
MCPU, LEFT
J4
3431A1P4
TOGGLE IN
TOGGLE OUT
110
26
U64A24 (3)
U65A24 (3)
3431A2
MCPU, RIGHT
BLOWER RIGHT MCPU
J12
3431A2P12
1
5
U105C22 (1)
U107A22N (1)
9TB1
RJ
J4
3431A2P4
TOGGLE IN
TOGGLE OUT
110
26
U65A24 (3)
U64A24 (3)

406475-33A

41. MFD BIT PAGE, CDS FAULT CODE 02 IS DISPLAYED (LEFT MCPU FAILED)



NOTE

BIT page will display CDS NO GO with a numeric fault code.

Turn off external dc electrical power (Task 9-3-11).

Disconnect left MCPU connector 3431A1P6.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC power between 3431A1P6-A and 3431A1P6-B.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity.

FROM	TO
3431A1P12-1	9TB1-RF
3431A1P12-5	Ground
3431P1P4-110	3431A2P4-26
3431A1P4-26	3431A2P4-110

Is continuity present on each wire?

Repair or replace wire.

Turn off external dc electrical power (Task 9-3-11).

Check for continuity between 3431A1P6-B and airframe ground.

Is continuity present?

Replace left MCPU (TM 9-1427-779-20).

Repair or replace wire U59A12N (2).

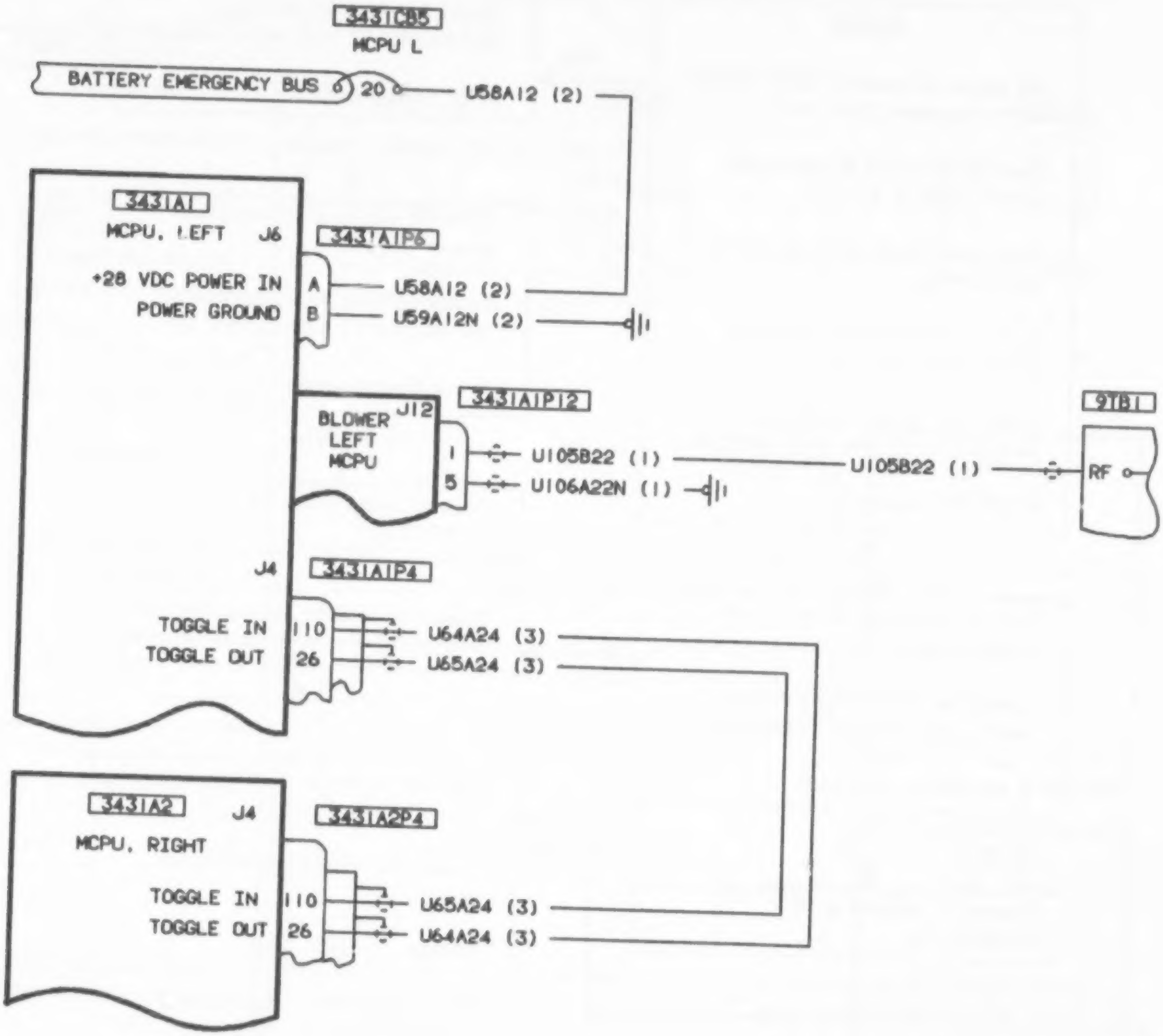
Check for continuity between load side of circuit breaker 3431CB5 and 3431A1P6-A.

Is continuity present?

Repair or replace wire U58A12 (2).

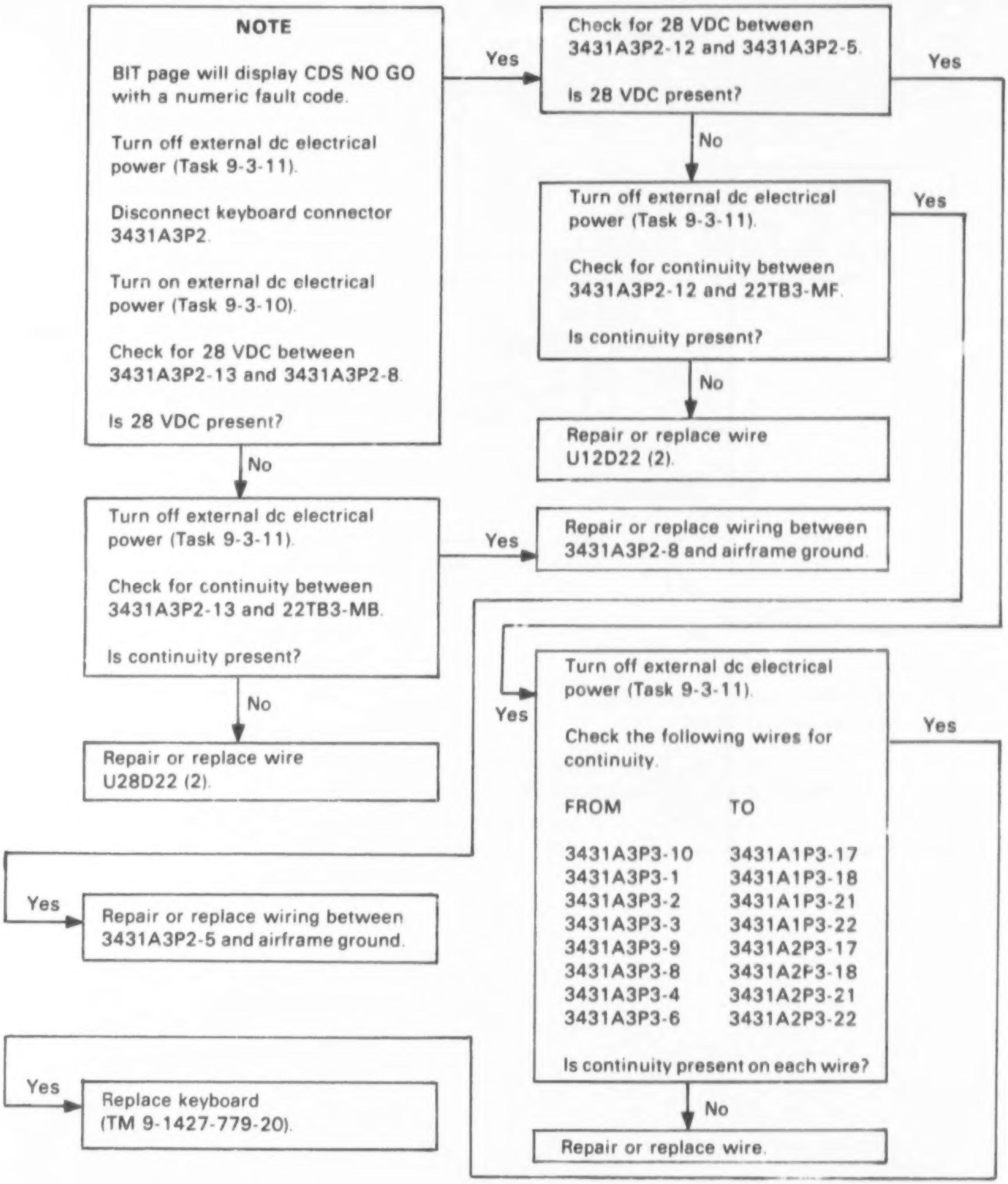
Replace circuit breaker 3431CB5 (Task 9-6-6).

41. MFD BIT PAGE, CDS FAULT CODE 02 IS DISPLAYED (LEFT MCPU FAILED) (CONT)


3431CB5
MCPU L
BATTERY EMERGENCY BUS
20
U58A12 (2)
3431A1
MCPU, LEFT
J6
3431A1P6
+28 VDC POWER IN
POWER GROUND
A
B
U58A12 (2)
U59A12N (2)
BLOWER LEFT MCPU
J12
3431A1P12
1
5
U105B22 (1)
U106A22N (1)
U105B22 (1)
9TB1
RF
J4
3431A1P4
TOGGLE IN
TOGGLE OUT
110
26
U64A24 (3)
U65A24 (3)
3431A2
J4
MCPU, RIGHT
3431A2P4
TOGGLE IN
TOGGLE OUT
110
26
U65A24 (3)
U64A24 (3)

406475-26A

42. MFD BIT PAGE, CDS FAULT CODE 04 IS DISPLAYED (KEYBOARD UNIT FAILED)



NOTE

BIT page will display CDS NO GO with a numeric fault code.

Turn off external dc electrical power (Task 9-3-11).

Disconnect keyboard connector 3431A3P2.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC between 3431A3P2-13 and 3431A3P2-8.

Is 28 VDC present?

Check for 28 VDC between 3431A3P2-12 and 3431A3P2-5.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity between 3431A3P2-12 and 22TB3-MF.

Is continuity present?

Repair or replace wire U12D22 (2).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity between 3431A3P2-13 and 22TB3-MB.

Is continuity present?

Repair or replace wiring between 3431A3P2-8 and airframe ground.

Repair or replace wire U28D22 (2).

Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity.

FROM	TO
3431A3P3-10	3431A1P3-17
3431A3P3-1	3431A1P3-18
3431A3P3-2	3431A1P3-21
3431A3P3-3	3431A1P3-22
3431A3P3-9	3431A2P3-17
3431A3P3-8	3431A2P3-18
3431A3P3-4	3431A2P3-21
3431A3P3-6	3431A2P3-22

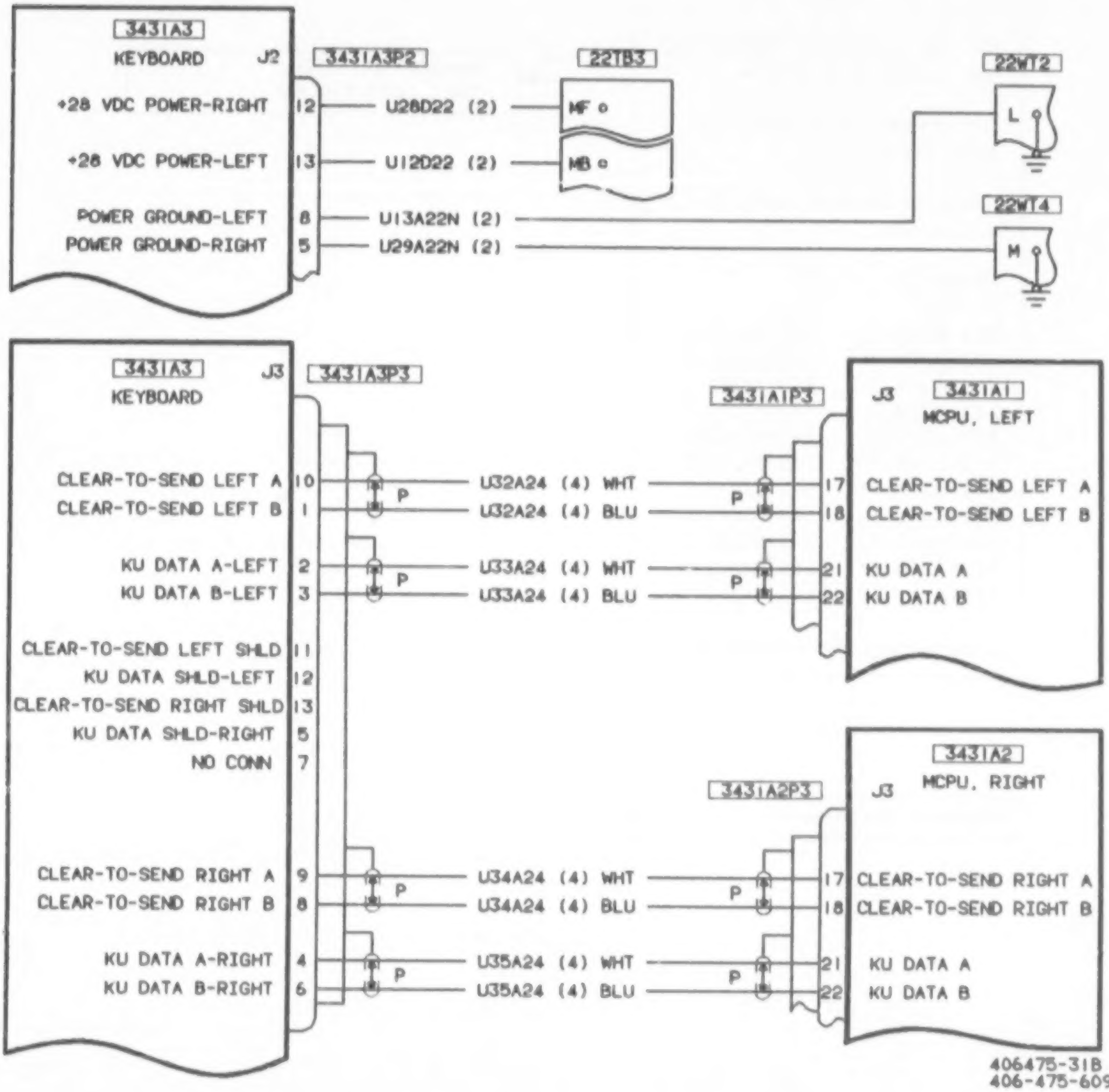
Is continuity present on each wire?

Repair or replace wiring between 3431A3P2-5 and airframe ground.

Replace keyboard (TM 9-1427-779-20).

Repair or replace wire.

42. MFD BIT PAGE, CDS FAULT CODE 04 IS DISPLAYED (KEYBOARD UNIT FAILED) (CONT)


3431A3
KEYBOARD
J2
+28 VDC POWER-RIGHT 12
+28 VDC POWER-LEFT 13
POWER GROUND-LEFT 8
POWER GROUND-RIGHT 5
3431A3P2
U28D22 (2)
U12D22 (2)
U13A22N (2)
U29A22N (2)
22TB3
MF
MB
22WT2
L
22WT4
M
3431A3
KEYBOARD
J3
3431A3P3
CLEAR-TO-SEND LEFT A 10
CLEAR-TO-SEND LEFT B 1
KU DATA A-LEFT 2
KU DATA B-LEFT 3
CLEAR-TO-SEND LEFT SHLD 11
KU DATA SHLD-LEFT 12
CLEAR-TO-SEND RIGHT SHLD 13
KU DATA SHLD-RIGHT 5
NO CONN 7
CLEAR-TO-SEND RIGHT A 9
CLEAR-TO-SEND RIGHT B 8
KU DATA A-RIGHT 4
KU DATA B-RIGHT 6
P
U32A24 (4) WHT
U32A24 (4) BLU
U33A24 (4) WHT
U33A24 (4) BLU
U34A24 (4) WHT
U34A24 (4) BLU
U35A24 (4) WHT
U35A24 (4) BLU
3431A1P3
J3
3431A1
MCPU, LEFT
17 CLEAR-TO-SEND LEFT A
18 CLEAR-TO-SEND LEFT B
21 KU DATA A
22 KU DATA B
3431A2
MCPU, RIGHT
3431A2P3
J3
17 CLEAR-TO-SEND RIGHT A
18 CLEAR-TO-SEND RIGHT B
21 KU DATA A
22 KU DATA B

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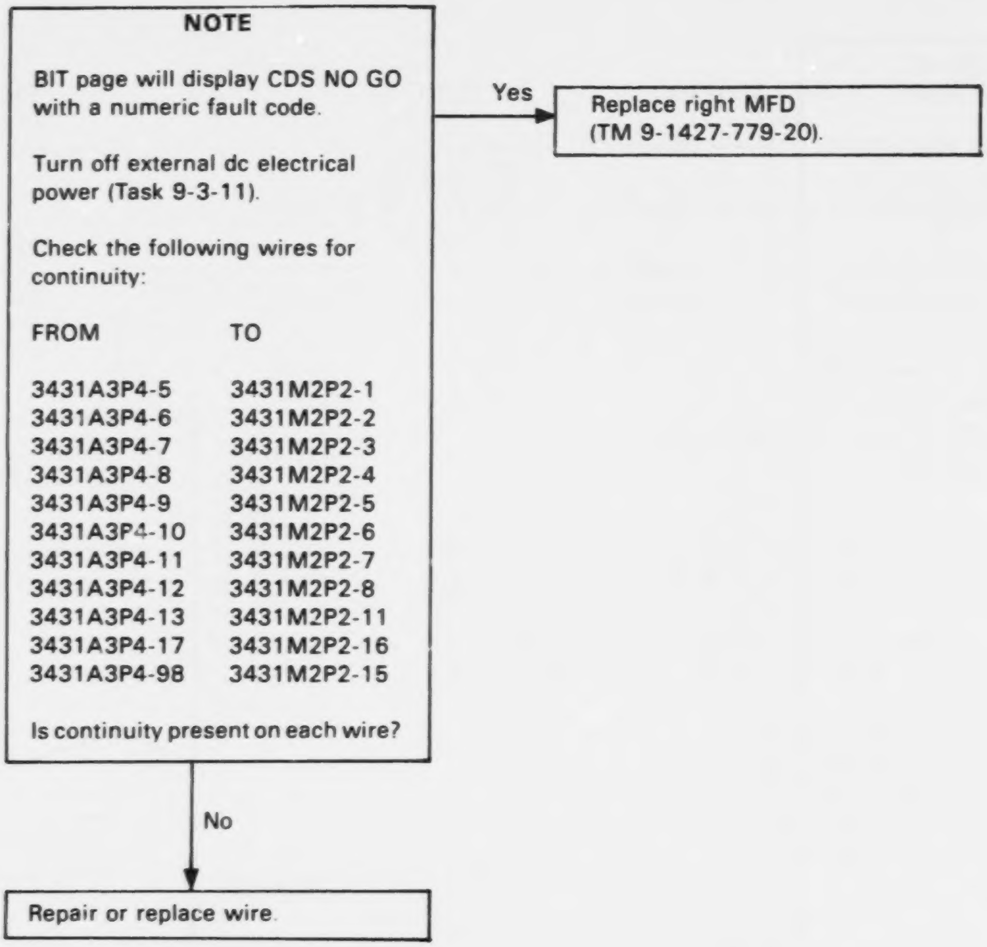
406-475-609A

43. MFD BIT PAGE, CDS FAULT CODE 10 IS DISPLAYED (RIGHT MFD FAILED)



NOTE

BIT page will display CDS NO GO with a numeric fault code.

Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity:

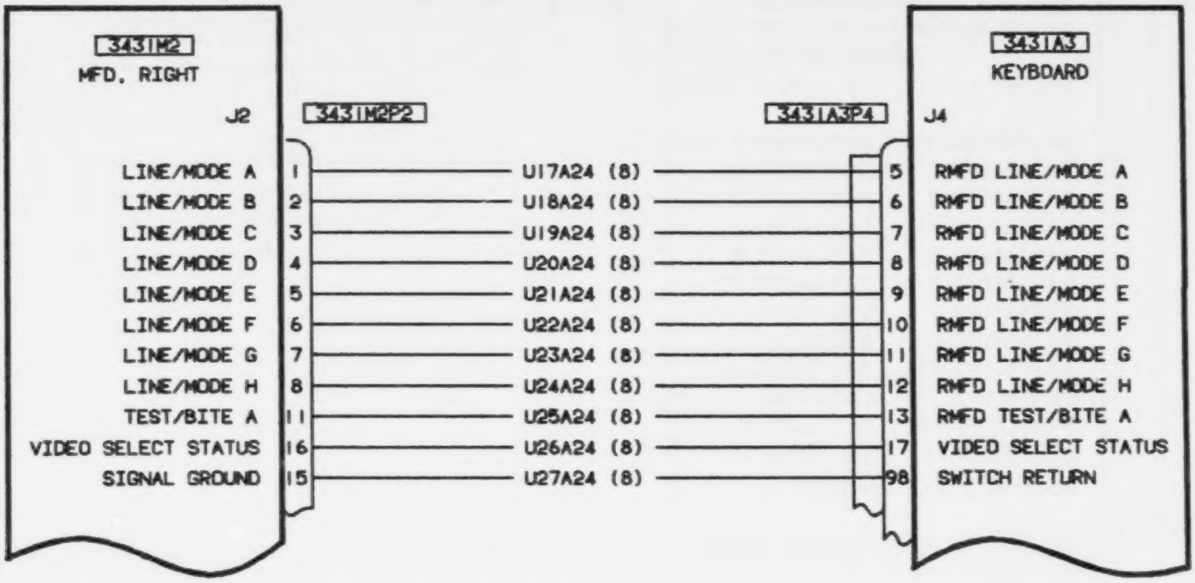
FROM	TO
3431A3P4-5	3431M2P2-1
3431A3P4-6	3431M2P2-2
3431A3P4-7	3431M2P2-3
3431A3P4-8	3431M2P2-4
3431A3P4-9	3431M2P2-5
3431A3P4-10	3431M2P2-6
3431A3P4-11	3431M2P2-7
3431A3P4-12	3431M2P2-8
3431A3P4-13	3431M2P2-11
3431A3P4-17	3431M2P2-16
3431A3P4-98	3431M2P2-15

Is continuity present on each wire?

Replace right MFD (TM 9-1427-779-20).

Repair or replace wire.

43. MFD BIT PAGE, CDS FAULT CODE 10 IS DISPLAYED (RIGHT MFD FAILED) (CONT)


343IM2
MFD, RIGHT
J2
343IM2P2
343IA3P4
J4
343IA3
KEYBOARD
LINE/MODE A 1 U17A24 (8) 5 RMFD LINE/MODE A
LINE/MODE B 2 U18A24 (8) 6 RMFD LINE/MODE B
LINE/MODE C 3 U19A24 (8) 7 RMFD LINE/MODE C
LINE/MODE D 4 U20A24 (8) 8 RMFD LINE/MODE D
LINE/MODE E 5 U21A24 (8) 9 RMFD LINE/MODE E
LINE/MODE F 6 U22A24 (8) 10 RMFD LINE/MODE F
LINE/MODE G 7 U23A24 (8) 11 RMFD LINE/MODE G
LINE/MODE H 8 U24A24 (8) 12 RMFD LINE/MODE H
TEST/BITE A 11 U25A24 (8) 13 RMFD TEST/BITE A
VIDEO SELECT STATUS 16 U26A24 (8) 17 VIDEO SELECT STATUS
SIGNAL GROUND 15 U27A24 (8) 98 SWITCH RETURN

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406-475-609A

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44. MFD BIT PAGE, CDS FAULT CODE 12 IS DISPLAYED (LEFT MFD FAILED)

Turn off external dc electrical power (Task 9-3-11).

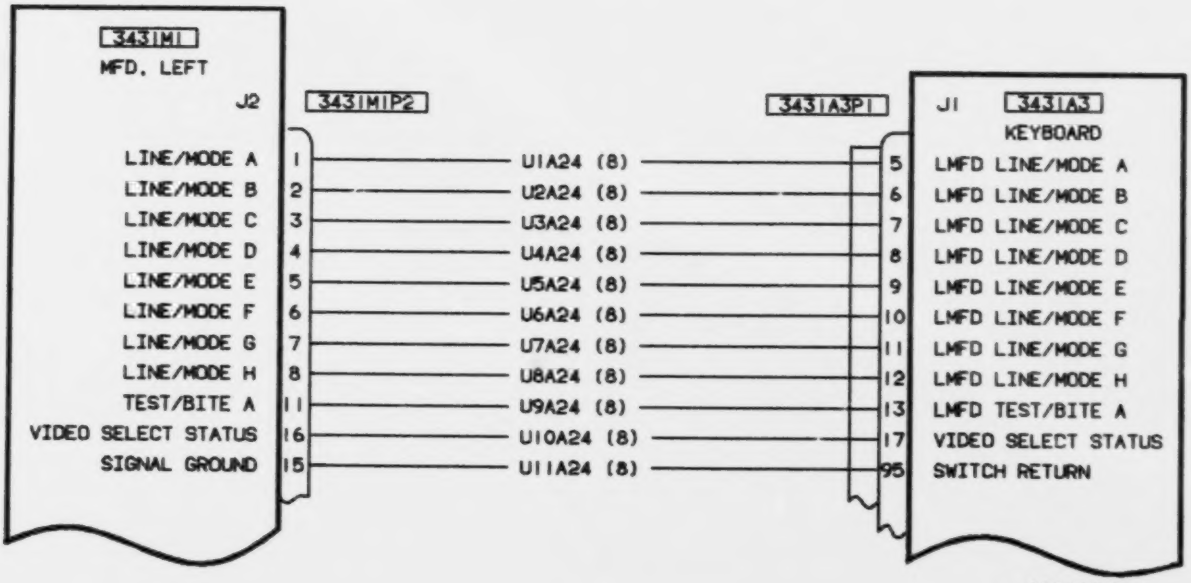
Check the following wires for continuity:

FROM	TO
3431M1P2-1	3431A3P1-5
3431M1P2-2	3431A3P1-6
3431M1P2-3	3431A3P1-7
3431M1P2-4	3431A3P1-8
3431M1P2-5	3431A3P1-9
3431M1P2-6	3431A3P1-10
3431M1P2-7	3431A3P1-11
3431M1P2-8	3431A3P1-12
3431M1P2-11	3431A3P1-13
3431M1P2-16	3431A3P1-17
3431M1P2-15	3431A31-95
3431A3P2-13	3431M1P1-A
3431A3P2-8	Ground

Is continuity present on each wire?

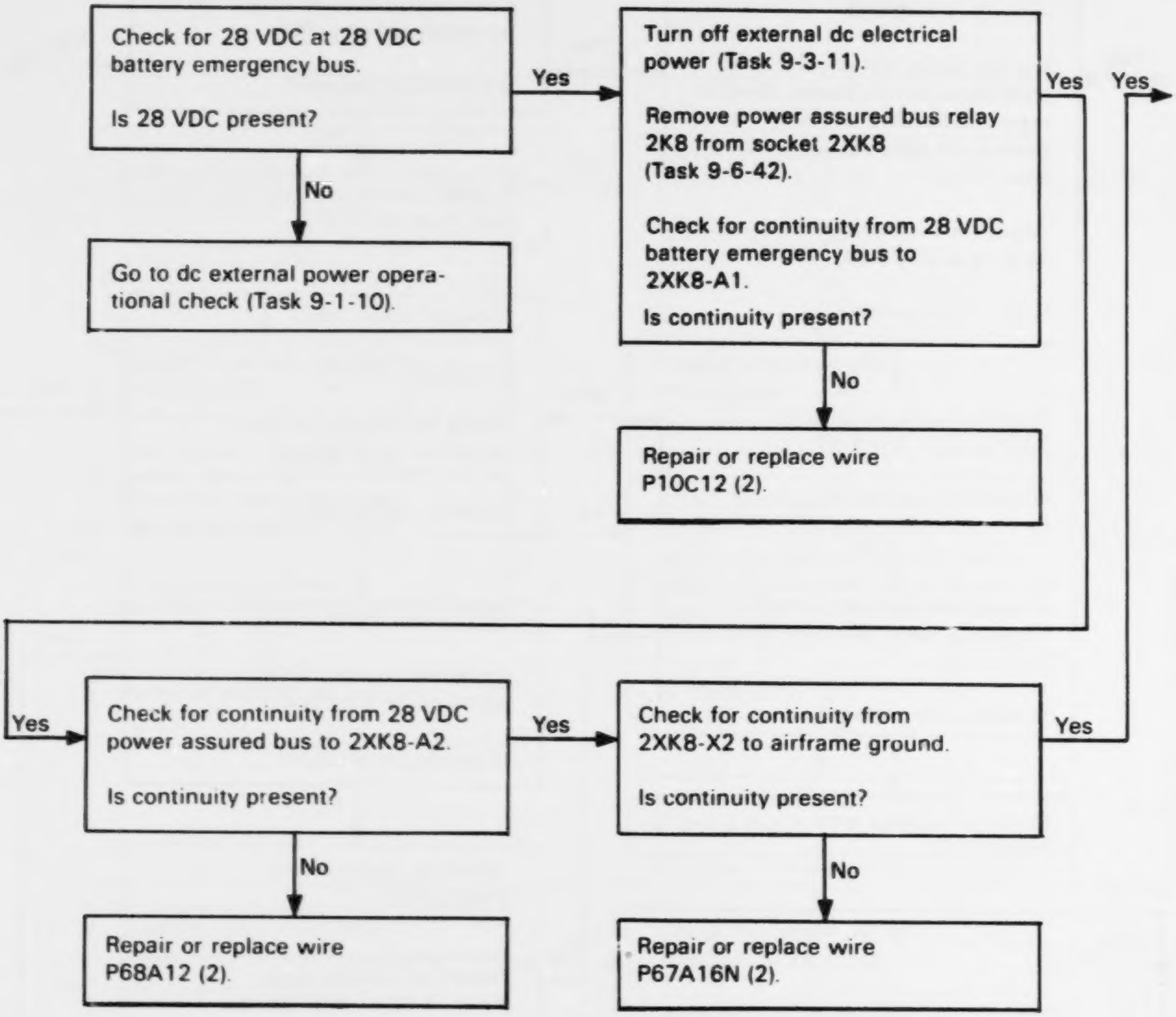
Yes → Replace MFD (TM 9-1427-779-20).

No → Repair or replace wire.


3431M1
MFD, LEFT
J2
3431M1P2
3431A3P1
J1
3431A3
KEYBOARD
LINE/MODE A
LINE/MODE B
LINE/MODE C
LINE/MODE D
LINE/MODE E
LINE/MODE F
LINE/MODE G
LINE/MODE H
TEST/BITE A
VIDEO SELECT STATUS
SIGNAL GROUND
1
2
3
4
5
6
7
8
11
16
15
U1A24 (8)
U2A24 (8)
U3A24 (8)
U4A24 (8)
U5A24 (8)
U6A24 (8)
U7A24 (8)
U8A24 (8)
U9A24 (8)
U10A24 (8)
U11A24 (8)
5
6
7
8
9
10
11
12
13
17
95
LMFD LINE/MODE A
LMFD LINE/MODE B
LMFD LINE/MODE C
LMFD LINE/MODE D
LMFD LINE/MODE E
LMFD LINE/MODE F
LMFD LINE/MODE G
LMFD LINE/MODE H
LMFD TEST/BITE A
VIDEO SELECT STATUS
SWITCH RETURN

406475-32A

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON)



Check for 28 VDC at 28 VDC battery emergency bus.

Is 28 VDC present?

Go to dc external power operational check (Task 9-1-10).

Turn off external dc electrical power (Task 9-3-11).

Remove power assured bus relay 2K8 from socket 2XK8 (Task 9-6-42).

Check for continuity from 28 VDC battery emergency bus to 2XK8-A1.

Is continuity present?

Repair or replace wire P10C12 (2).

Check for continuity from 28 VDC power assured bus to 2XK8-A2.

Is continuity present?

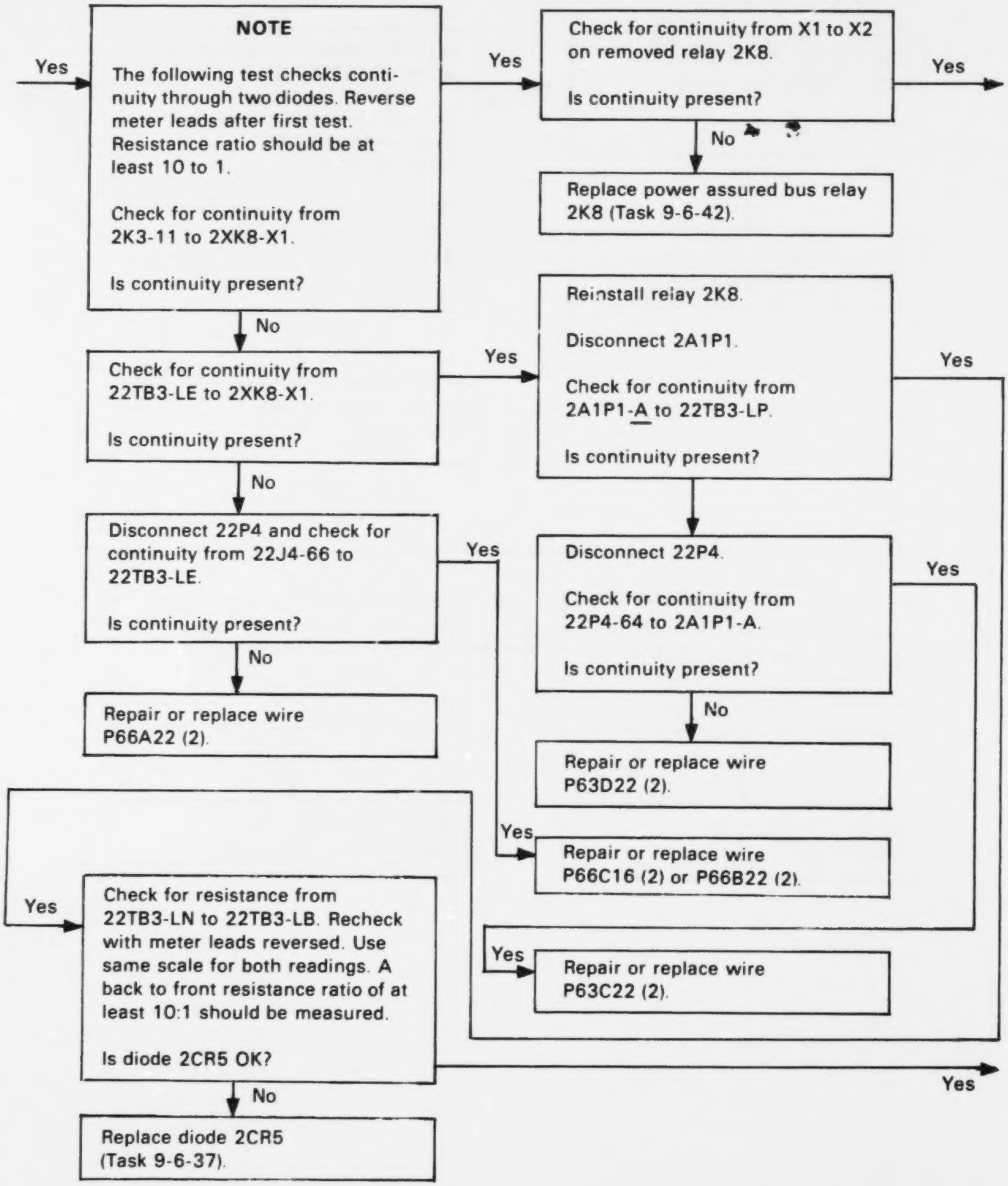
Repair or replace wire P68A12 (2).

Check for continuity from 2XK8-X2 to airframe ground.

Is continuity present?

Repair or replace wire P67A16N (2).

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)



NOTE

The following test checks continuity through two diodes. Reverse meter leads after first test. Resistance ratio should be at least 10 to 1.

Check for continuity from 2K3-11 to 2XK8-X1.

Is continuity present?

Check for continuity from 22TB3-LE to 2XK8-X1.

Is continuity present?

Disconnect 22P4 and check for continuity from 22J4-66 to 22TB3-LE.

Is continuity present?

Repair or replace wire P66A22 (2).

Check for resistance from 22TB3-LN to 22TB3-LB. Recheck with meter leads reversed. Use same scale for both readings. A back to front resistance ratio of at least 10:1 should be measured.

Is diode 2CR5 OK?

Replace diode 2CR5 (Task 9-6-37).

Check for continuity from X1 to X2 on removed relay 2K8.

Is continuity present?

Replace power assured bus relay 2K8 (Task 9-6-42).

Reinstall relay 2K8.

Disconnect 2A1P1.

Check for continuity from 2A1P1-A to 22TB3-LP.

Is continuity present?

Disconnect 22P4.

Check for continuity from 22P4-64 to 2A1P1-A.

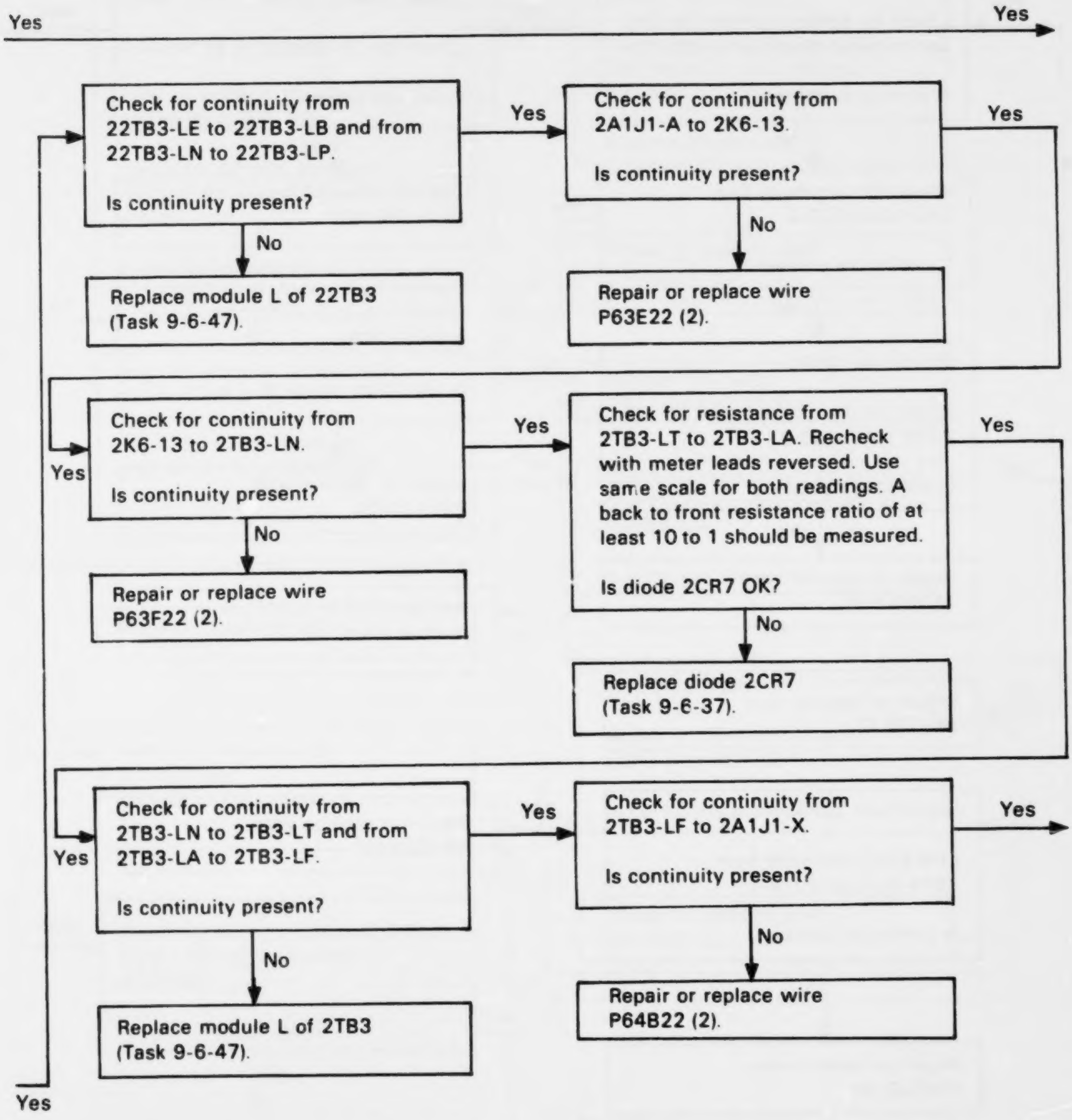
Is continuity present?

Repair or replace wire P63D22 (2).

Repair or replace wire P66C16 (2) or P66B22 (2).

Repair or replace wire P63C22 (2).

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)



Check for continuity from 22TB3-LE to 22TB3-LB and from 22TB3-LN to 22TB3-LP.

Is continuity present?

Replace module L of 22TB3 (Task 9-6-47).

Check for continuity from 2A1J1-A to 2K6-13.

Is continuity present?

Repair or replace wire P63E22 (2).

Check for continuity from 2K6-13 to 2TB3-LN.

Is continuity present?

Repair or replace wire P63F22 (2).

Check for resistance from 2TB3-LT to 2TB3-LA. Recheck with meter leads reversed. Use same scale for both readings. A back to front resistance ratio of at least 10 to 1 should be measured.

Is diode 2CR7 OK?

Replace diode 2CR7 (Task 9-6-37).

Check for continuity from 2TB3-LN to 2TB3-LT and from 2TB3-LA to 2TB3-LF.

Is continuity present?

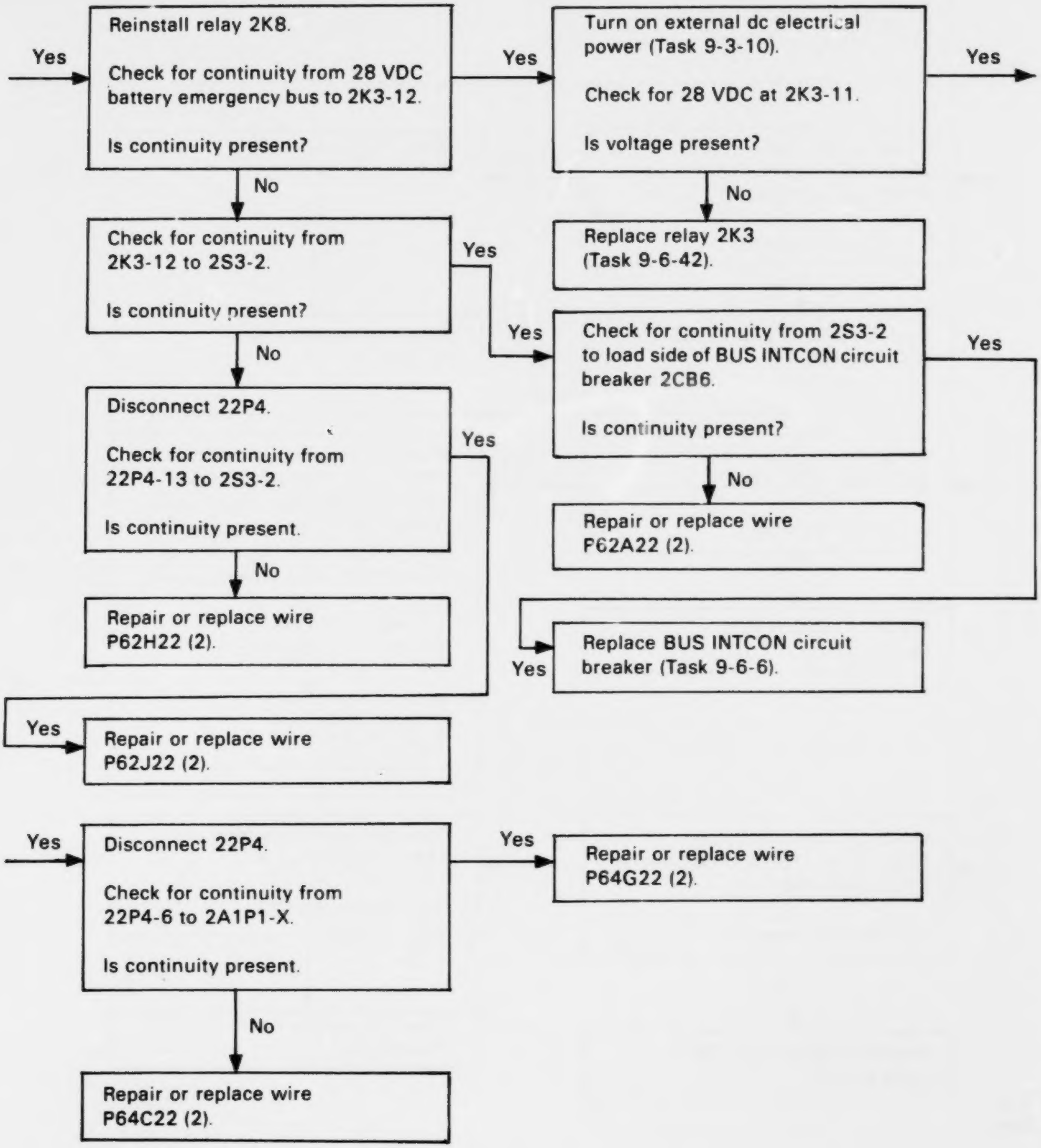
Replace module L of 2TB3 (Task 9-6-47).

Check for continuity from 2TB3-LF to 2A1J1-X.

Is continuity present?

Repair or replace wire P64B22 (2).

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)



Reinstall relay 2K8.

Check for continuity from 28 VDC battery emergency bus to 2K3-12.

Is continuity present?

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at 2K3-11.

Is voltage present?

Check for continuity from 2K3-12 to 2S3-2.

Is continuity present?

Replace relay 2K3 (Task 9-6-42).

Check for continuity from 2S3-2 to load side of BUS INTCON circuit breaker 2CB6.

Is continuity present?

Disconnect 22P4.

Check for continuity from 22P4-13 to 2S3-2.

Is continuity present.

Repair or replace wire P62A22 (2).

Repair or replace wire P62H22 (2).

Replace BUS INTCON circuit breaker (Task 9-6-6).

Repair or replace wire P62J22 (2).

Disconnect 22P4.

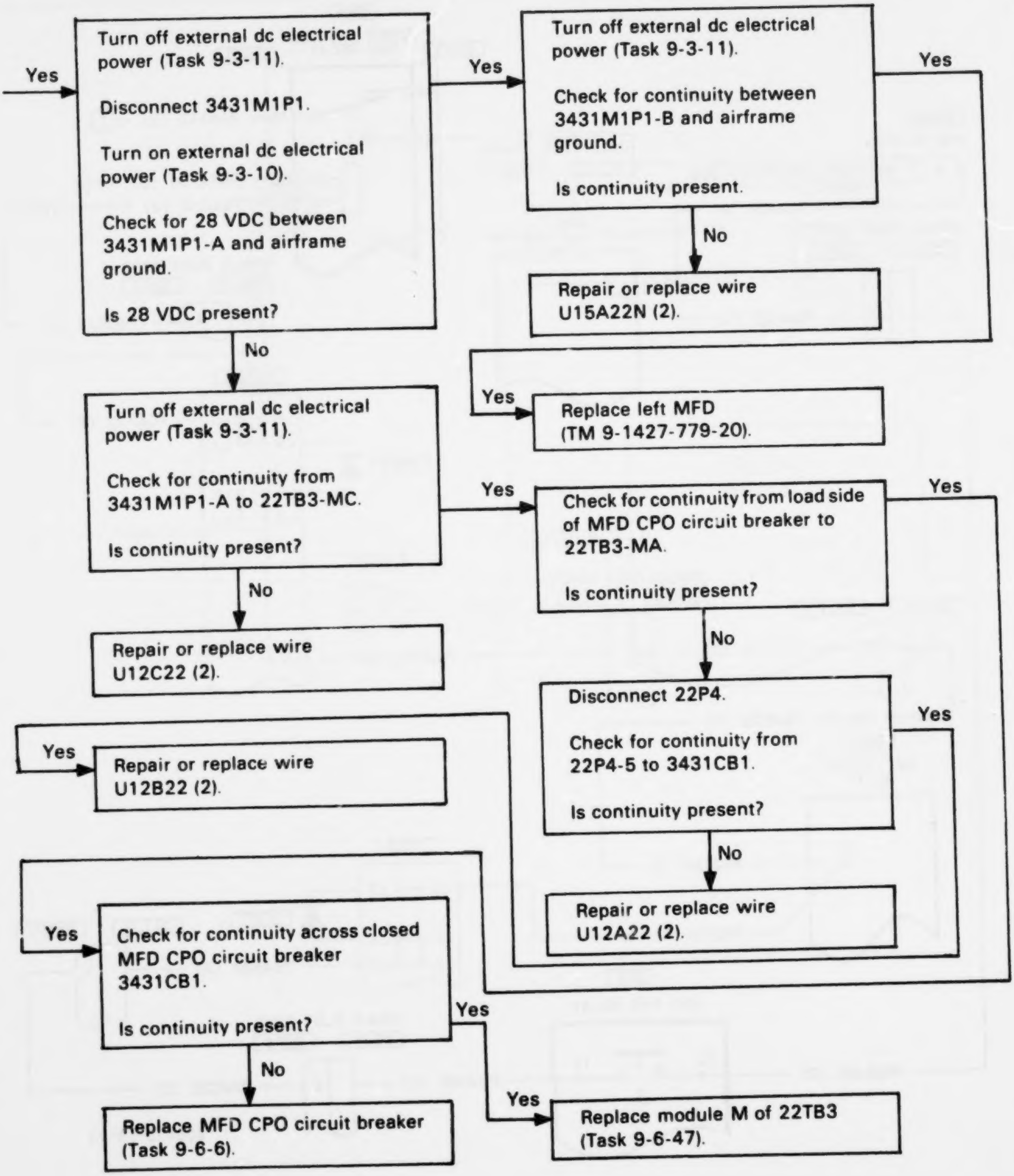
Check for continuity from 22P4-6 to 2A1P1-X.

Is continuity present.

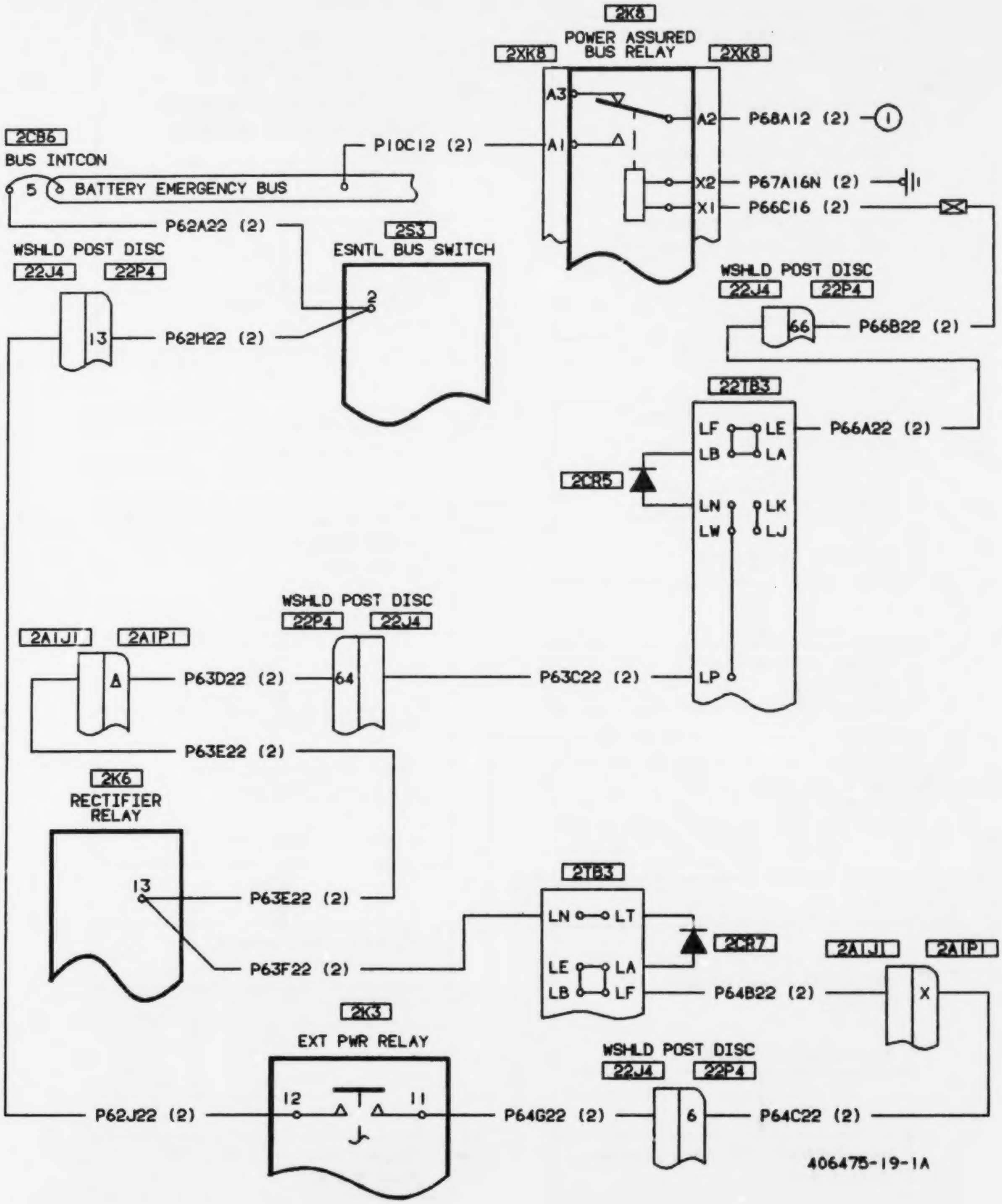
Repair or replace wire P64G22 (2).

Repair or replace wire P64C22 (2).

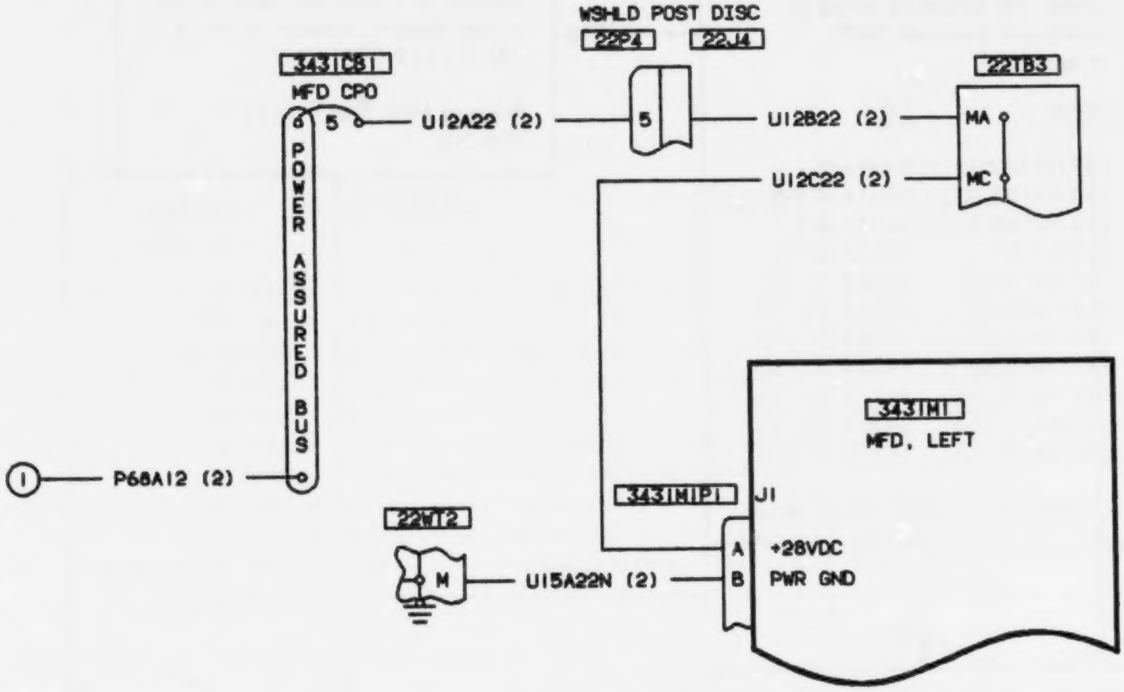
45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)


Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431M1P1.
Turn on external dc electrical power (Task 9-3-10).
Check for 28 VDC between 3431M1P1-A and airframe ground.
Is 28 VDC present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Check for continuity between 3431M1P1-B and airframe ground.
Is continuity present.
Yes
No
Repair or replace wire U15A22N (2).
No
Yes
Replace left MFD (TM 9-1427-779-20).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3431M1P1-A to 22TB3-MC.
Is continuity present?
Yes
Check for continuity from load side of MFD CPO circuit breaker to 22TB3-MA.
Is continuity present?
Yes
No
Repair or replace wire U12C22 (2).
No
Disconnect 22P4.
Check for continuity from 22P4-5 to 3431CB1.
Is continuity present?
Yes
Yes
Repair or replace wire U12B22 (2).
No
Repair or replace wire U12A22 (2).
Yes
Check for continuity across closed MFD CPO circuit breaker 3431CB1.
Is continuity present?
Yes
No
Replace MFD CPO circuit breaker (Task 9-6-6).
Yes
Replace module M of 22TB3 (Task 9-6-47).

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)

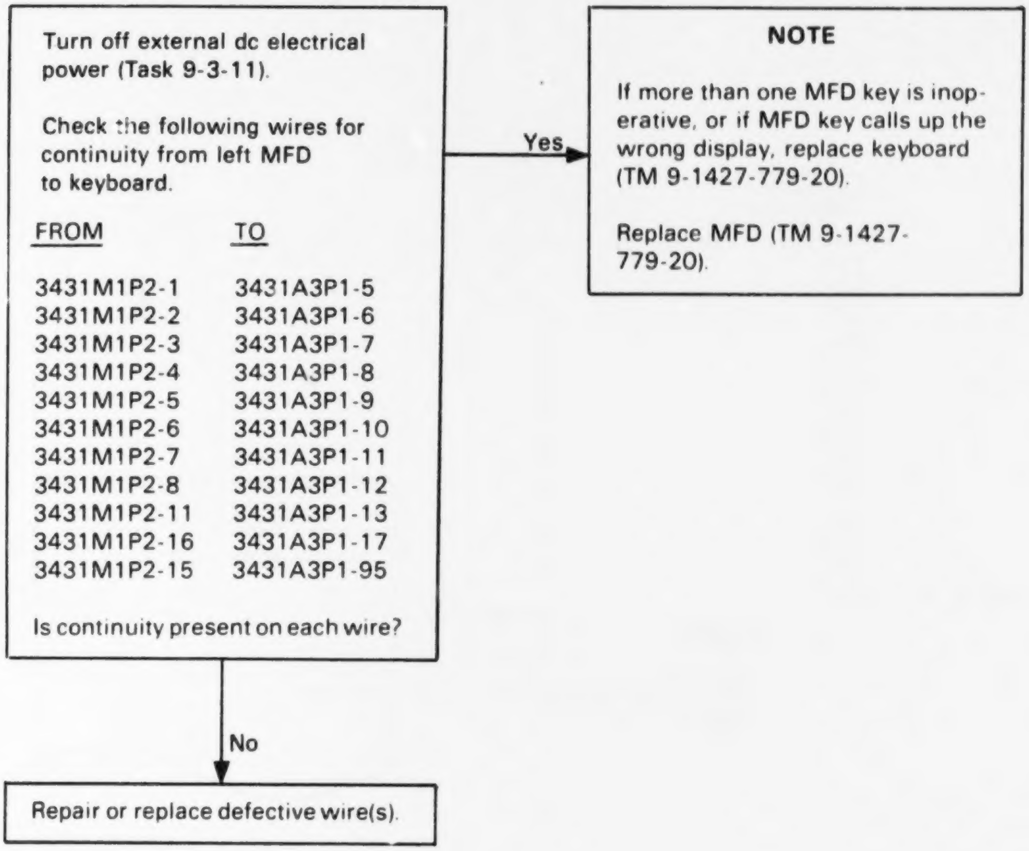

2K8
POWER ASSURED BUS RELAY
2XK8
2XK8
A3
A2
A1
X2
X1
P68A12 (2)
1
P10C12 (2)
P67A16N (2)
P66C16 (2)
2CB6
BUS INTCON
5
BATTERY EMERGENCY BUS
P62A22 (2)
2S3
ESNTL BUS SWITCH
2
WSHLD POST DISC
22J4
22P4
13
P62H22 (2)
WSHLD POST DISC
22J4
22P4
66
P66B22 (2)
22TB3
LF
LE
LB
LA
P66A22 (2)
2CR5
LN
LK
LW
LJ
LP
WSHLD POST DISC
22P4
22J4
2A1J1
2A1P1
A
P63D22 (2)
64
P63C22 (2)
P63E22 (2)
2K6
RECTIFIER RELAY
13
P63E22 (2)
2TB3
LN
LT
2CR7
P63F22 (2)
LE
LA
LB
LF
P64B22 (2)
2A1J1
2A1P1
X
2K3
EXT PWR RELAY
12
11
WSHLD POST DISC
22J4
22P4
P62J22 (2)
P64G22 (2)
6
P64C22 (2)
406475-19-1A

45. MFD CPO CIRCUIT BREAKER DOES NOT TURN ON CPO MFD (DC EXTERNAL POWER ON) (CONT)


WSHLD POST DISC
22P4
22J4
343ICB1
MFD CPO
5
U12A22 (2)
5
U12B22 (2)
22TB3
MA
U12C22 (2)
MC
POWER ASSURED BUS
343IM1
MFD, LEFT
1
P68A12 (2)
343IM1P1
J1
22WT2
M
U15A22N (2)
A
+28VDC
B
PWR GND

406475-19-2A

46. MFD (CPO) KEY HAS NO RESPONSE DURING SWITCH CHECK



Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity from left MFD to keyboard.

FROM	TO
3431M1P2-1	3431A3P1-5
3431M1P2-2	3431A3P1-6
3431M1P2-3	3431A3P1-7
3431M1P2-4	3431A3P1-8
3431M1P2-5	3431A3P1-9
3431M1P2-6	3431A3P1-10
3431M1P2-7	3431A3P1-11
3431M1P2-8	3431A3P1-12
3431M1P2-11	3431A3P1-13
3431M1P2-16	3431A3P1-17
3431M1P2-15	3431A3P1-95

Is continuity present on each wire?

Yes

NOTE

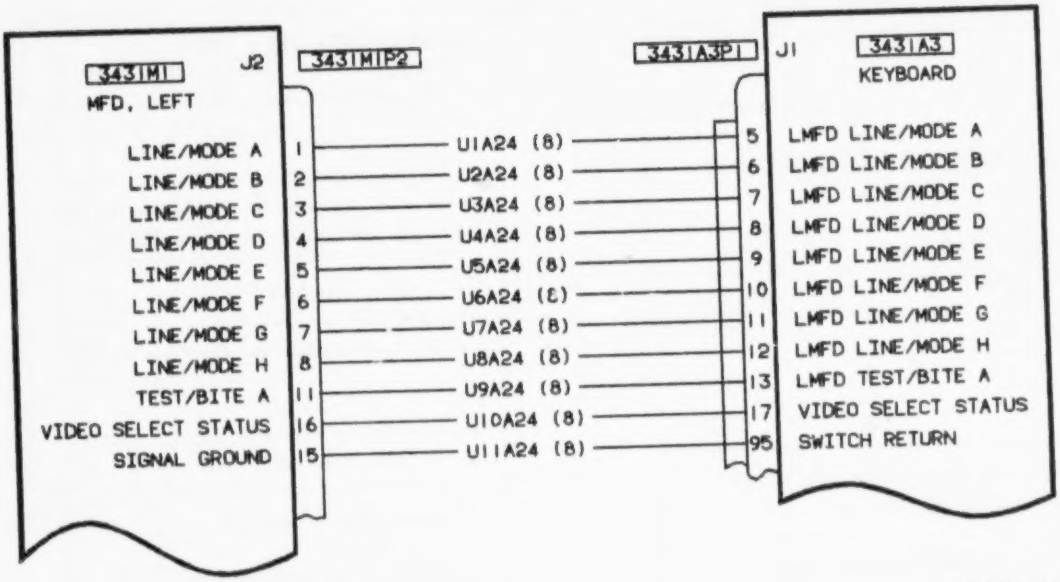
If more than one MFD key is inoperative, or if MFD key calls up the wrong display, replace keyboard (TM 9-1427-779-20).

Replace MFD (TM 9-1427-779-20).

No

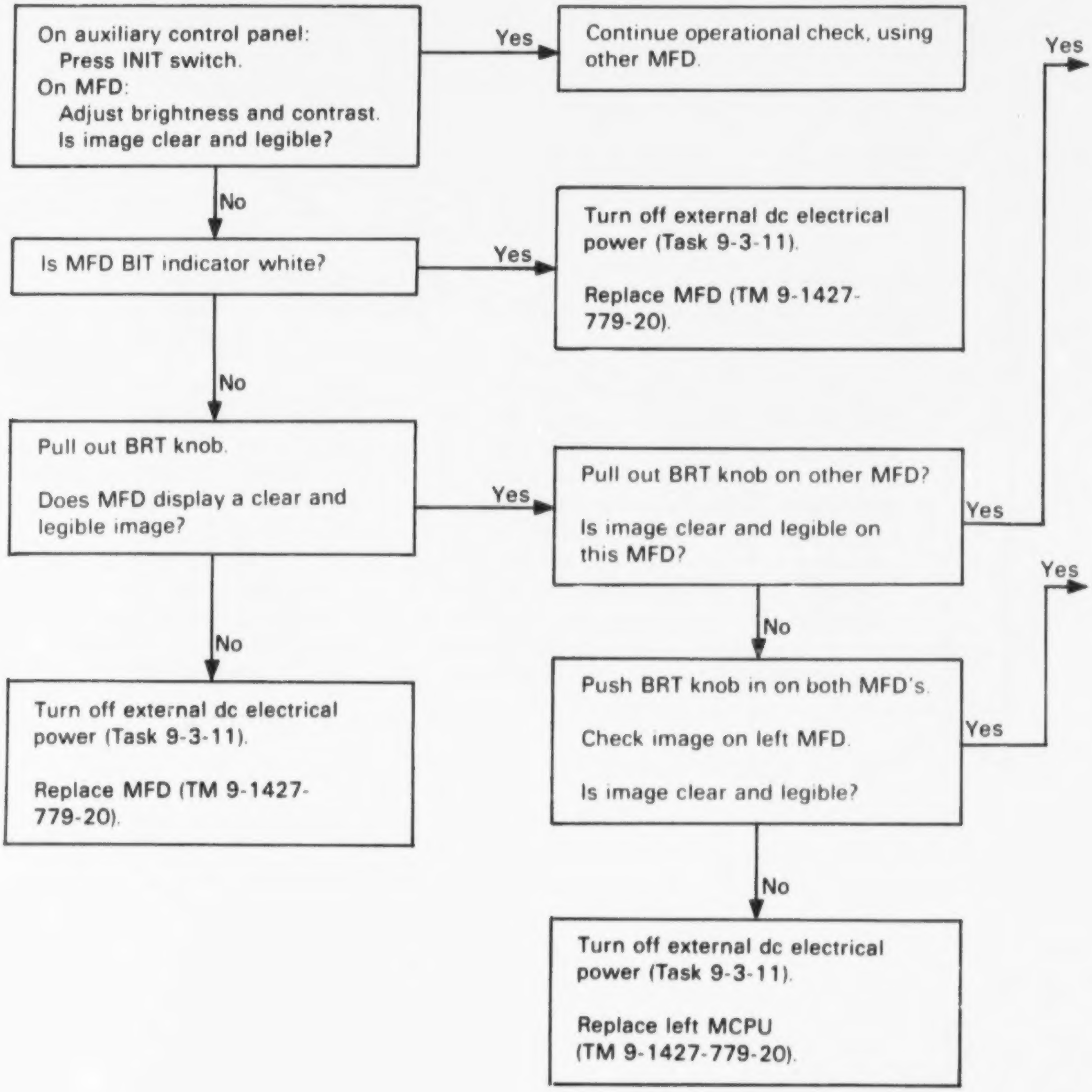
Repair or replace defective wire(s).

46. MFD (CPO) KEY HAS NO RESPONSE DURING SWITCH CHECK (CONT)

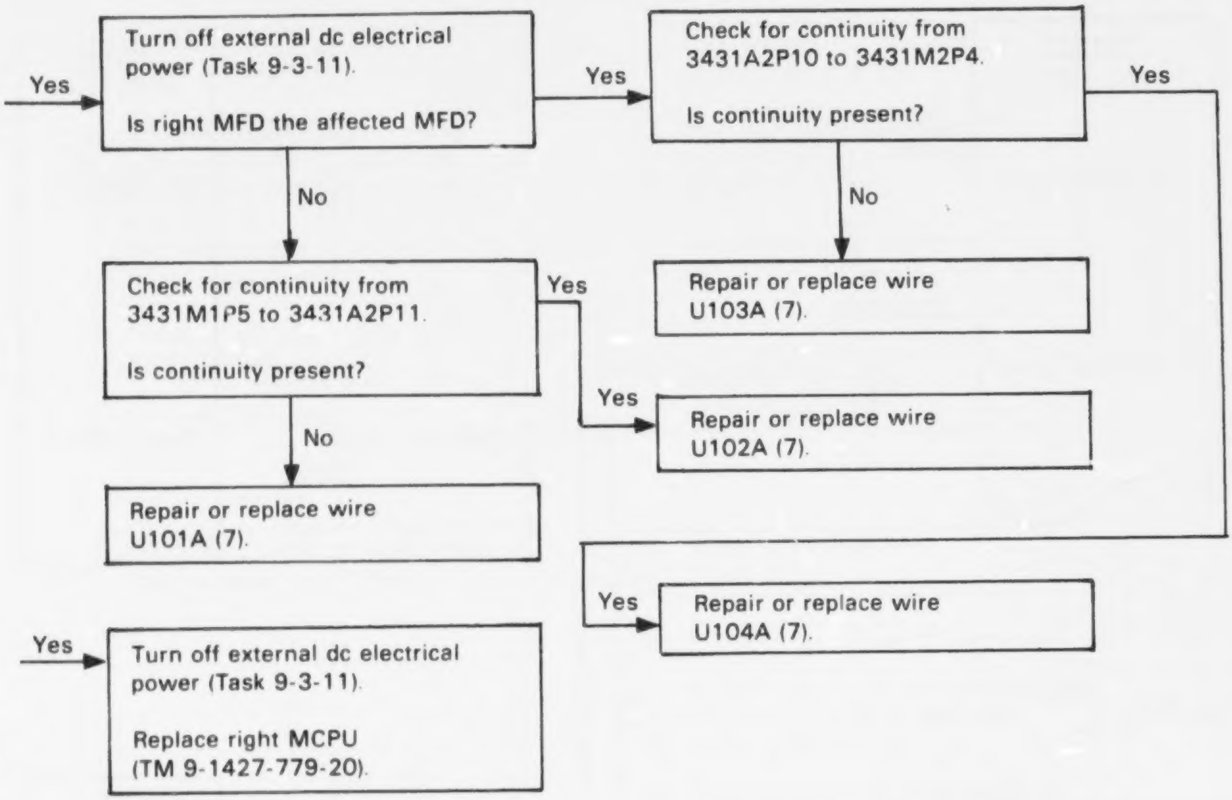

343IMI
J2
MFD, LEFT
343IMIP2
343IA3PI
JI
343IA3
KEYBOARD
LINE/MODE A 1 — U1A24 (8) — 5 LMFD LINE/MODE A
LINE/MODE B 2 — U2A24 (8) — 6 LMFD LINE/MODE B
LINE/MODE C 3 — U3A24 (8) — 7 LMFD LINE/MODE C
LINE/MODE D 4 — U4A24 (8) — 8 LMFD LINE/MODE D
LINE/MODE E 5 — U5A24 (8) — 9 LMFD LINE/MODE E
LINE/MODE F 6 — U6A24 (8) — 10 LMFD LINE/MODE F
LINE/MODE G 7 — U7A24 (8) — 11 LMFD LINE/MODE G
LINE/MODE H 8 — U8A24 (8) — 12 LMFD LINE/MODE H
TEST/BITE A 11 — U9A24 (8) — 13 LMFD TEST/BITE A
VIDEO SELECT STATUS 16 — U10A24 (8) — 17 VIDEO SELECT STATUS
SIGNAL GROUND 15 — U11A24 (8) — 95 SWITCH RETURN

406475-38A

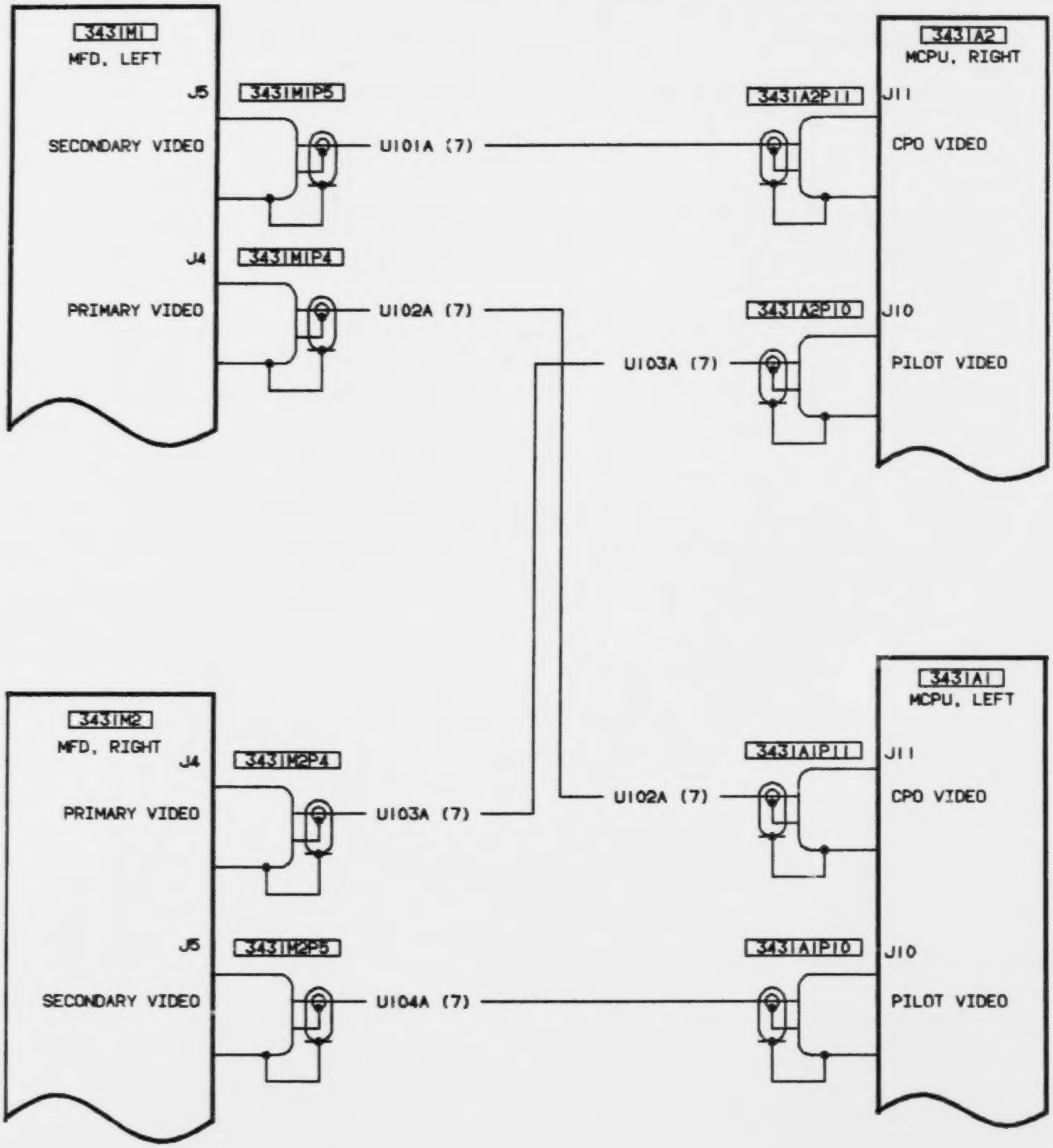
47. MFD DOES NOT DISPLAY INITIAL PAGE ON POWER UP, AND IMAGE IS NOT LEGIBLE AND CLEAR


On auxiliary control panel:
Press INIT switch.
On MFD:
Adjust brightness and contrast.
Is image clear and legible?
Yes
Continue operational check, using other MFD.
No
Is MFD BIT indicator white?
Yes
Turn off external dc electrical power (Task 9-3-11).
Replace MFD (TM 9-1427-779-20).
No
Pull out BRT knob.
Does MFD display a clear and legible image?
Yes
Pull out BRT knob on other MFD?
Is image clear and legible on this MFD?
Yes
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Replace MFD (TM 9-1427-779-20).
No
Push BRT knob in on both MFD's.
Check image on left MFD.
Is image clear and legible?
Yes
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Replace left MCPU (TM 9-1427-779-20).

47. MFD DOES NOT DISPLAY INITIAL PAGE ON POWER UP, AND IMAGE IS NOT LEGIBLE AND CLEAR (CONT)

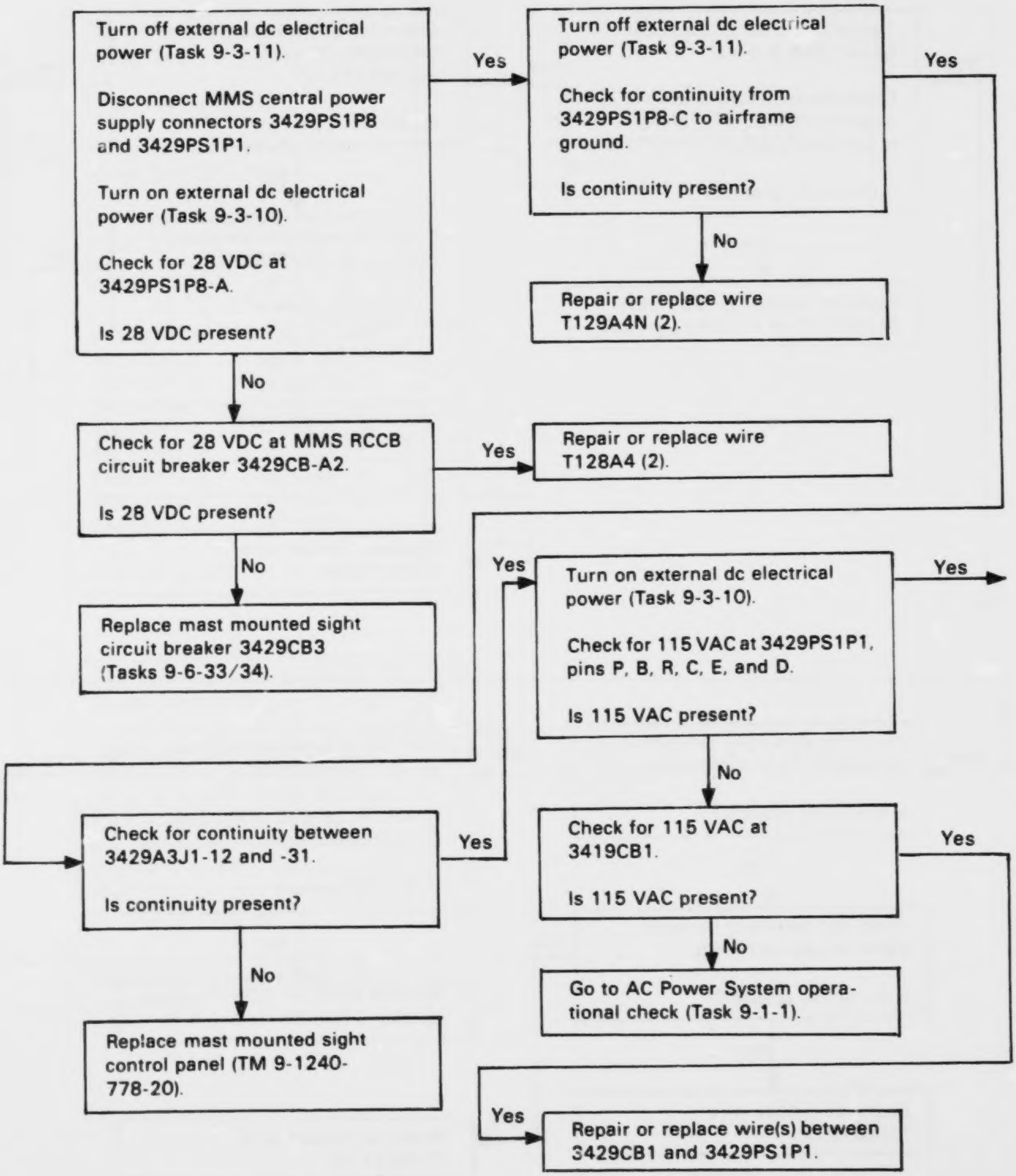

Yes
Turn off external dc electrical power (Task 9-3-11).
Is right MFD the affected MFD?
Yes
Check for continuity from 3431A2P10 to 3431M2P4.
Is continuity present?
Yes
No
No
Check for continuity from 3431M1P5 to 3431A2P11.
Is continuity present?
Yes
Repair or replace wire U103A (7).
Yes
Repair or replace wire U102A (7).
No
Repair or replace wire U101A (7).
Yes
Repair or replace wire U104A (7).
Yes
Turn off external dc electrical power (Task 9-3-11).
Replace right MCPU (TM 9-1427-779-20).

47. MFD DOES NOT DISPLAY INITIAL PAGE ON POWER UP, AND IMAGE IS NOT LEGIBLE AND CLEAR (CONT)


3431M1
MFD, LEFT
J5
3431M1P5
SECONDARY VIDEO
U101A (7)
J4
3431M1P4
PRIMARY VIDEO
U102A (7)
3431A2
MCPU, RIGHT
3431A2P11
J11
CPO VIDEO
3431A2P10
J10
U103A (7)
PILOT VIDEO
3431M2
MFD, RIGHT
J4
3431M2P4
PRIMARY VIDEO
U103A (7)
J5
3431M2P5
SECONDARY VIDEO
U104A (7)
3431A1
MCPU, LEFT
3431A1P11
J11
U102A (7)
CPO VIDEO
3431A1P10
J10
PILOT VIDEO

406475-25A

48. MFD INITIAL PAGE DOES NOT DISPLAY MMS ON



Turn off external dc electrical power (Task 9-3-11).

Disconnect MMS central power supply connectors 3429PS1P8 and 3429PS1P1.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at 3429PS1P8-A.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3429PS1P8-C to airframe ground.

Is continuity present?

Repair or replace wire T129A4N (2).

Check for 28 VDC at MMS RCCB circuit breaker 3429CB-A2.

Is 28 VDC present?

Repair or replace wire T128A4 (2).

Replace mast mounted sight circuit breaker 3429CB3 (Tasks 9-6-33/34).

Turn on external dc electrical power (Task 9-3-10).

Check for 115 VAC at 3429PS1P1, pins P, B, R, C, E, and D.

Is 115 VAC present?

Check for continuity between 3429A3J1-12 and -31.

Is continuity present?

Check for 115 VAC at 3419CB1.

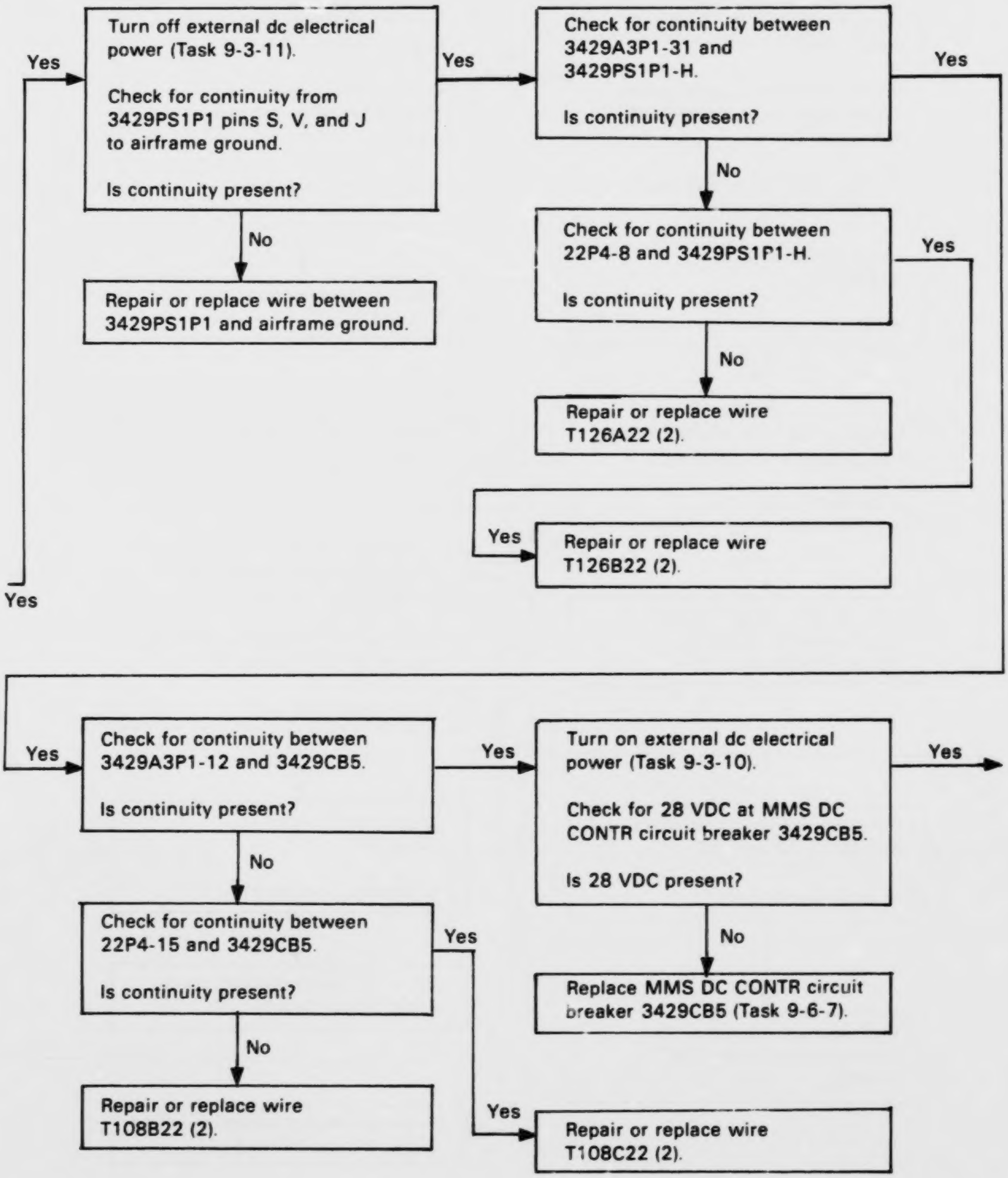
Is 115 VAC present?

Go to AC Power System operational check (Task 9-1-1).

Replace mast mounted sight control panel (TM 9-1240-778-20).

Repair or replace wire(s) between 3429CB1 and 3429PS1P1.

48. MFD INITIAL PAGE DOES NOT DISPLAY MMS ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3429PS1P1 pins S, V, and J to airframe ground.

Is continuity present?

Repair or replace wire between 3429PS1P1 and airframe ground.

Check for continuity between 3429A3P1-31 and 3429PS1P1-H.

Is continuity present?

Check for continuity between 22P4-8 and 3429PS1P1-H.

Is continuity present?

Repair or replace wire T126A22 (2).

Repair or replace wire T126B22 (2).

Check for continuity between 3429A3P1-12 and 3429CB5.

Is continuity present?

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at MMS DC CONTR circuit breaker 3429CB5.

Is 28 VDC present?

Check for continuity between 22P4-15 and 3429CB5.

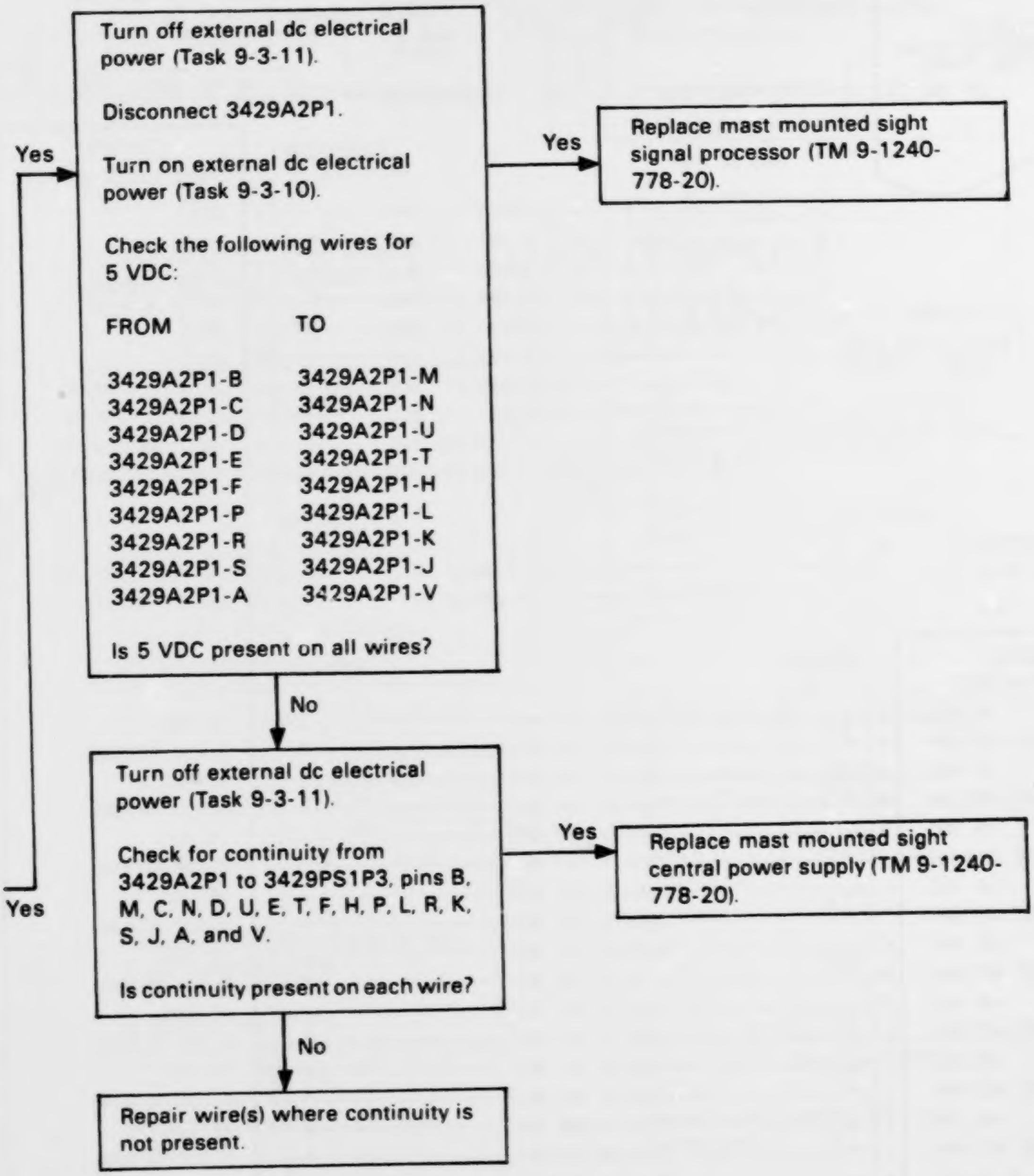
Is continuity present?

Replace MMS DC CONTR circuit breaker 3429CB5 (Task 9-6-7).

Repair or replace wire T108B22 (2).

Repair or replace wire T108C22 (2).

48. MFD INITIAL PAGE DOES NOT DISPLAY MMS ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3429A2P1.

Turn on external dc electrical power (Task 9-3-10).

Check the following wires for 5 VDC:

FROM	TO
3429A2P1-B	3429A2P1-M
3429A2P1-C	3429A2P1-N
3429A2P1-D	3429A2P1-U
3429A2P1-E	3429A2P1-T
3429A2P1-F	3429A2P1-H
3429A2P1-P	3429A2P1-L
3429A2P1-R	3429A2P1-K
3429A2P1-S	3429A2P1-J
3429A2P1-A	3429A2P1-V

Is 5 VDC present on all wires?

Replace mast mounted sight signal processor (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

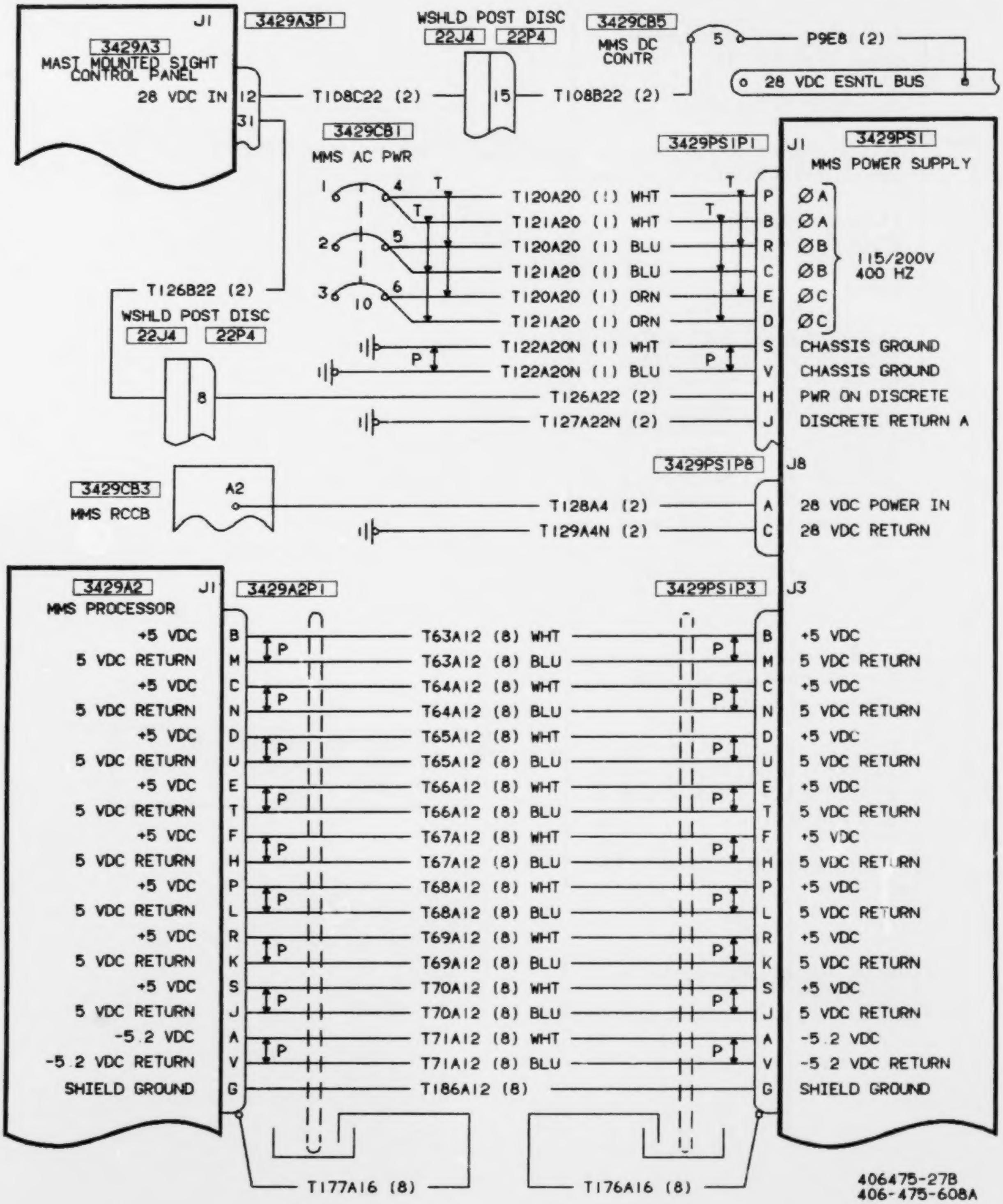
Check for continuity from 3429A2P1 to 3429PS1P3, pins B, M, C, N, D, U, E, T, F, H, P, L, R, K, S, J, A, and V.

Is continuity present on each wire?

Replace mast mounted sight central power supply (TM 9-1240-778-20).

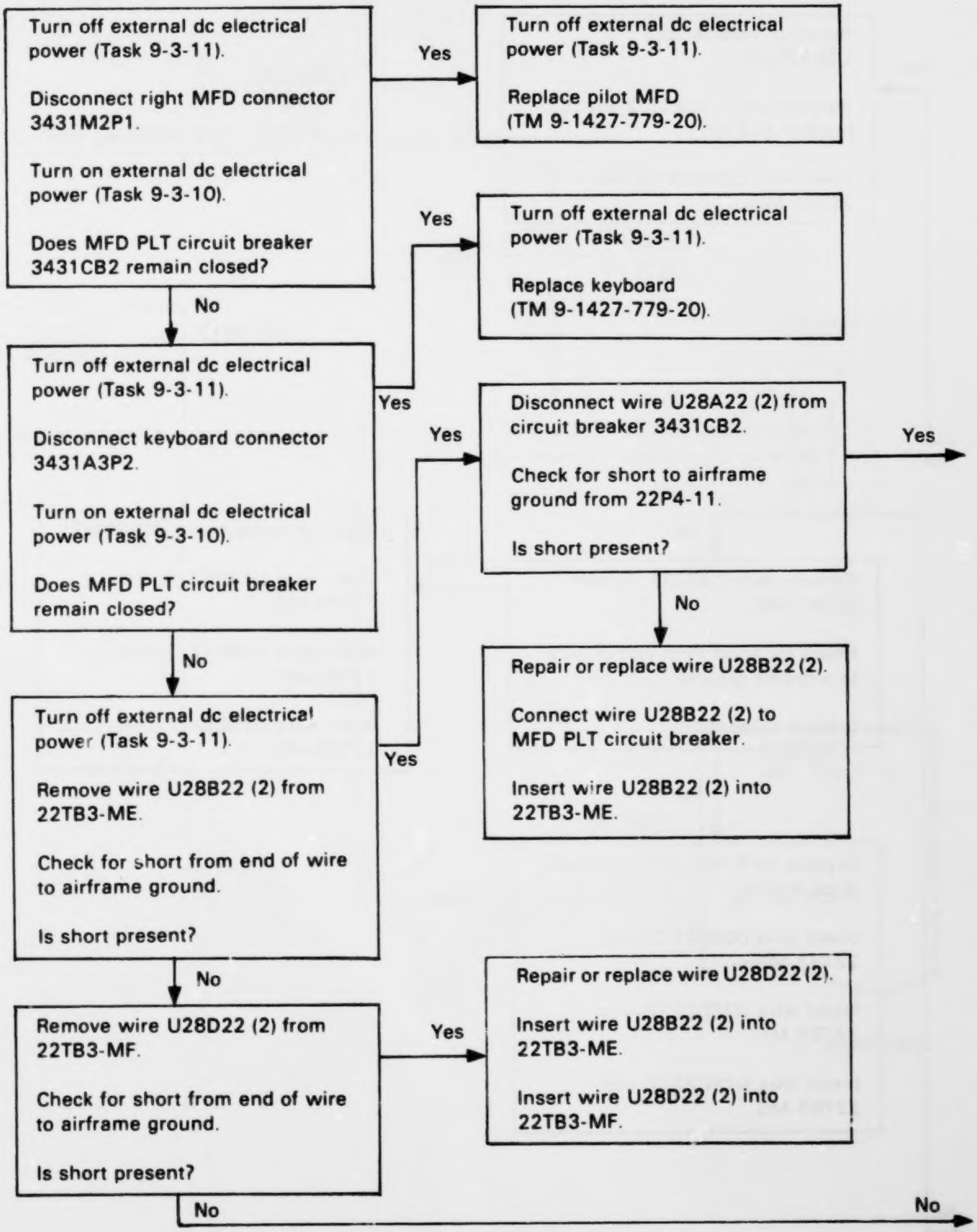
Repair wire(s) where continuity is not present.

48. MFD INITIAL PAGE DOES NOT DISPLAY MMS ON (CONT)


3429A3
MAST MOUNTED SIGHT CONTROL PANEL
J1
3429A3P1
28 VDC IN 12
31
WSHLD POST DISC
22J4
22P4
15
3429CB5
MMS DC CONTR
5
P9E8 (2)
28 VDC ESNTL BUS
T108C22 (2)
T108B22 (2)
3429CB1
MMS AC PWR
1
2
3
4
5
6
10
T
3429PS1P1
J1
3429PS1
MMS POWER SUPPLY
T120A20 (1) WHT
T121A20 (1) WHT
T120A20 (1) BLU
T121A20 (1) BLU
T120A20 (1) ORN
T121A20 (1) ORN
T122A20N (1) WHT
T122A20N (1) BLU
T126A22 (2)
T127A22N (2)
P
B
R
C
E
D
S
V
H
J
ØA
ØA
ØB
ØB
ØC
ØC
115/200V 400 HZ
CHASSIS GROUND
CHASSIS GROUND
PWR ON DISCRETE
DISCRETE RETURN A
T126B22 (2)
WSHLD POST DISC
22J4
22P4
8
3429PS1P8
J8
3429CB3
MMS RCCB
A2
T128A4 (2)
T129A4N (2)
A
C
28 VDC POWER IN
28 VDC RETURN
3429A2
MMS PROCESSOR
J1
3429A2P1
3429PS1P3
J3
+5 VDC
5 VDC RETURN
-5.2 VDC
-5.2 VDC RETURN
SHIELD GROUND
B
M
C
N
D
U
E
T
F
H
P
L
R
K
S
J
A
V
G
T63A12 (8) WHT
T63A12 (8) BLU
T64A12 (8) WHT
T64A12 (8) BLU
T65A12 (8) WHT
T65A12 (8) BLU
T66A12 (8) WHT
T66A12 (8) BLU
T67A12 (8) WHT
T67A12 (8) BLU
T68A12 (8) WHT
T68A12 (8) BLU
T69A12 (8) WHT
T69A12 (8) BLU
T70A12 (8) WHT
T70A12 (8) BLU
T71A12 (8) WHT
T71A12 (8) BLU
T186A12 (8)
T177A16 (8)
T176A16 (8)

406475-27B
406-475-608A

49. MFD PLT CIRCUIT BREAKER WILL NOT STAY CLOSED



Turn off external dc electrical power (Task 9-3-11).

Disconnect right MFD connector 3431M2P1.

Turn on external dc electrical power (Task 9-3-10).

Does MFD PLT circuit breaker 3431CB2 remain closed?

Turn off external dc electrical power (Task 9-3-11).

Replace pilot MFD (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Disconnect keyboard connector 3431A3P2.

Turn on external dc electrical power (Task 9-3-10).

Does MFD PLT circuit breaker remain closed?

Turn off external dc electrical power (Task 9-3-11).

Replace keyboard (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Remove wire U28B22 (2) from 22TB3-ME.

Check for short from end of wire to airframe ground.

Is short present?

Disconnect wire U28A22 (2) from circuit breaker 3431CB2.

Check for short to airframe ground from 22P4-11.

Is short present?

Repair or replace wire U28B22 (2).

Connect wire U28B22 (2) to MFD PLT circuit breaker.

Insert wire U28B22 (2) into 22TB3-ME.

Remove wire U28D22 (2) from 22TB3-MF.

Check for short from end of wire to airframe ground.

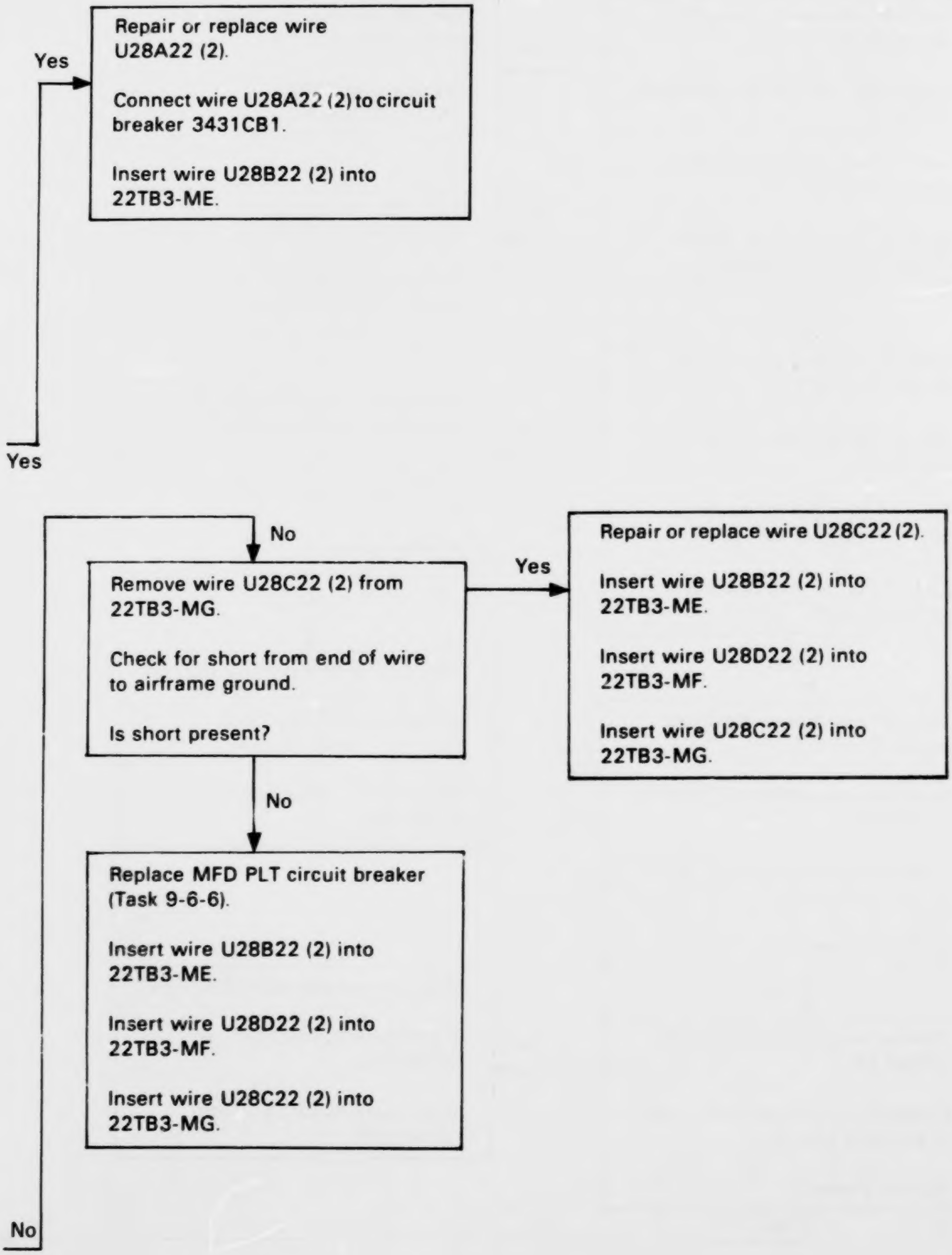
Is short present?

Repair or replace wire U28D22 (2).

Insert wire U28B22 (2) into 22TB3-ME.

Insert wire U28D22 (2) into 22TB3-MF.

49. MFD PLT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONT)



Repair or replace wire U28A22 (2).

Connect wire U28A22 (2) to circuit breaker 3431CB1.

Insert wire U28B22 (2) into 22TB3-ME.

Remove wire U28C22 (2) from 22TB3-MG.

Check for short from end of wire to airframe ground.

Is short present?

Repair or replace wire U28C22 (2).

Insert wire U28B22 (2) into 22TB3-ME.

Insert wire U28D22 (2) into 22TB3-MF.

Insert wire U28C22 (2) into 22TB3-MG.

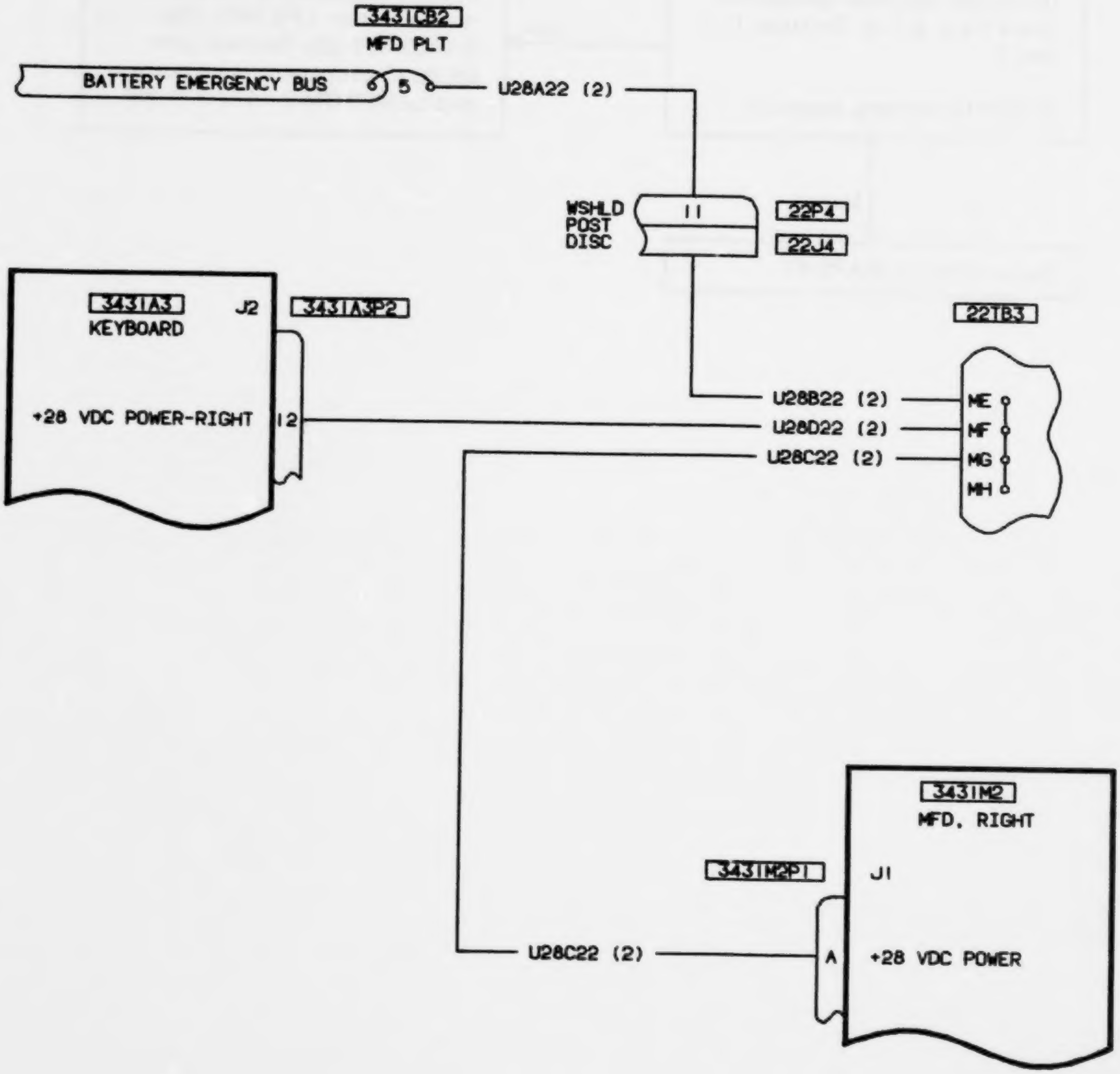
Replace MFD PLT circuit breaker (Task 9-6-6).

Insert wire U28B22 (2) into 22TB3-ME.

Insert wire U28D22 (2) into 22TB3-MF.

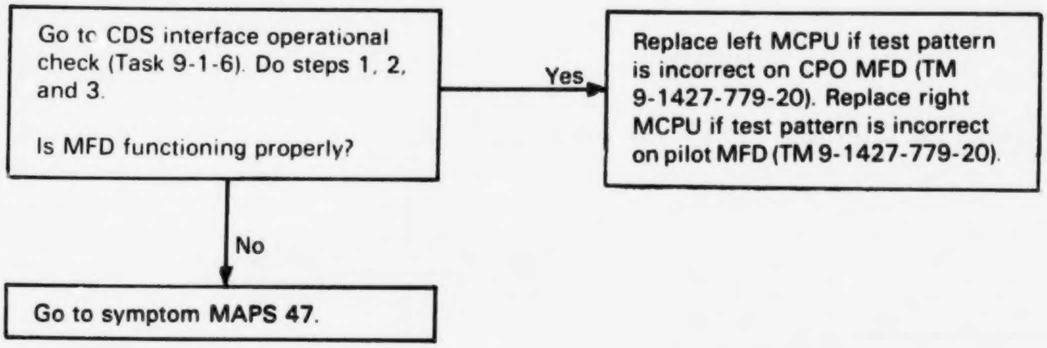
Insert wire U28C22 (2) into 22TB3-MG.

49. MFD PLT CIRCUIT BREAKER WILL NOT STAY CLOSED (CONT)


3431CB2
MFD PLT
BATTERY EMERGENCY BUS
5
U28A22 (2)
WSHLD POST DISC
11
22P4
22J4
3431A3
KEYBOARD
J2
3431A3P2
+28 VDC POWER-RIGHT
12
22TB3
U28B22 (2)
U28D22 (2)
U28C22 (2)
ME
MF
MG
MH
3431M2
MFD, RIGHT
3431M2P1
J1
U28C22 (2)
A
+28 VDC POWER

406475-30A

50. MFD TEST PATTERN DISPLAY ABSENT OR INCORRECT



Go to CDS interface operational check (Task 9-1-6). Do steps 1, 2, and 3.

Is MFD functioning properly?

Replace left MCPU if test pattern is incorrect on CPO MFD (TM 9-1427-779-20). Replace right MCPU if test pattern is incorrect on pilot MFD (TM 9-1427-779-20).

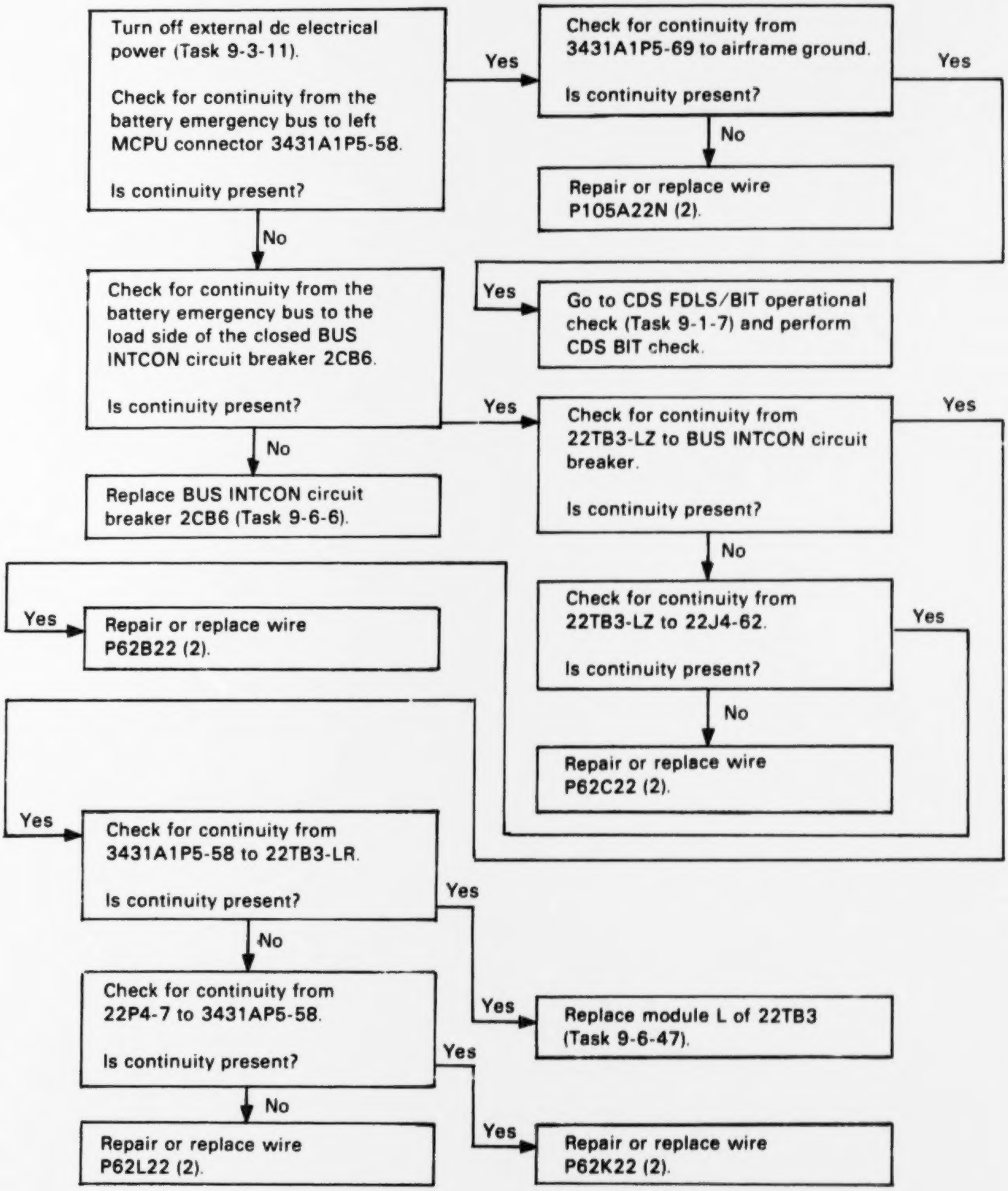
Go to symptom MAPS 47.

51. MFD SWITCH CHECK FUNCTION CANNOT BE DISABLED

Turn off external dc electrical power (Task 9-3-11).

Replace MFD (TM 9-1427-779-20).

52. MPD DOES NOT DISPLAY BATTERY 2 VOLTAGE (BATT 2 SWITCH SET TO BATT 2)


Turn off external dc electrical power (Task 9-3-11).

Check for continuity from the battery emergency bus to left MCPU connector 3431A1P5-58.

Is continuity present?

Check for continuity from 3431A1P5-69 to airframe ground.

Is continuity present?

Repair or replace wire P105A22N (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Check for continuity from the battery emergency bus to the load side of the closed BUS INTCON circuit breaker 2CB6.

Is continuity present?

Replace BUS INTCON circuit breaker 2CB6 (Task 9-6-6).

Check for continuity from 22TB3-LZ to BUS INTCON circuit breaker.

Is continuity present?

Check for continuity from 22TB3-LZ to 22J4-62.

Is continuity present?

Repair or replace wire P62C22 (2).

Repair or replace wire P62B22 (2).

Check for continuity from 3431A1P5-58 to 22TB3-LR.

Is continuity present?

Check for continuity from 22P4-7 to 3431AP5-58.

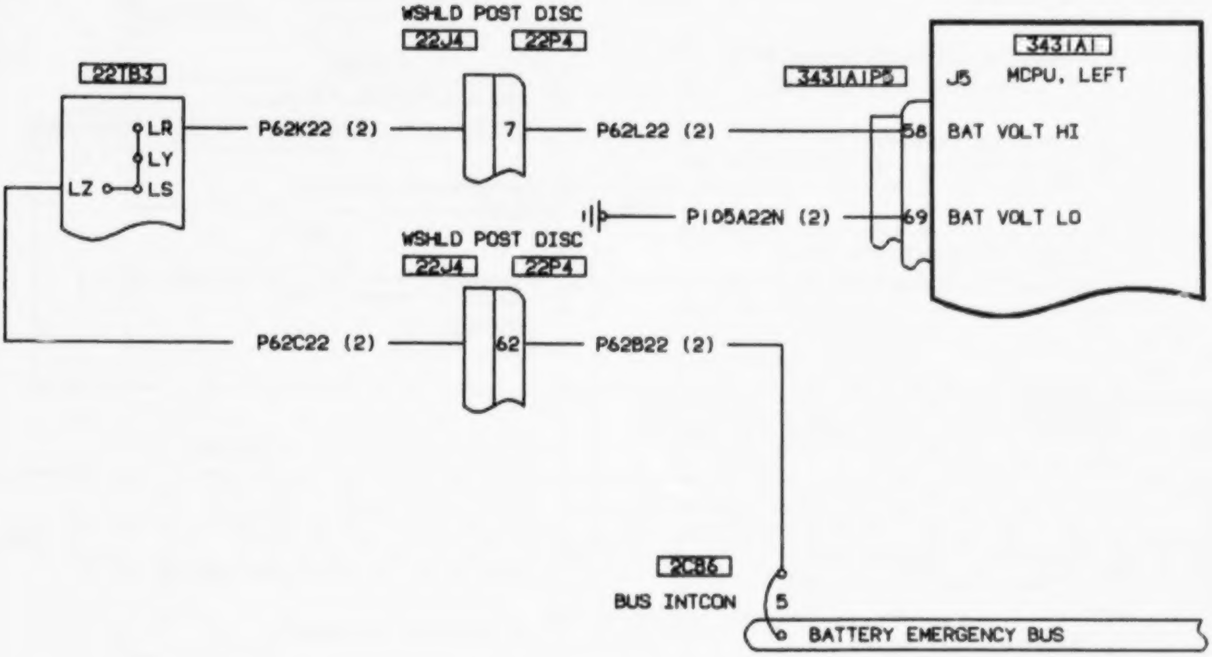
Is continuity present?

Repair or replace wire P62L22 (2).

Replace module L of 22TB3 (Task 9-6-47).

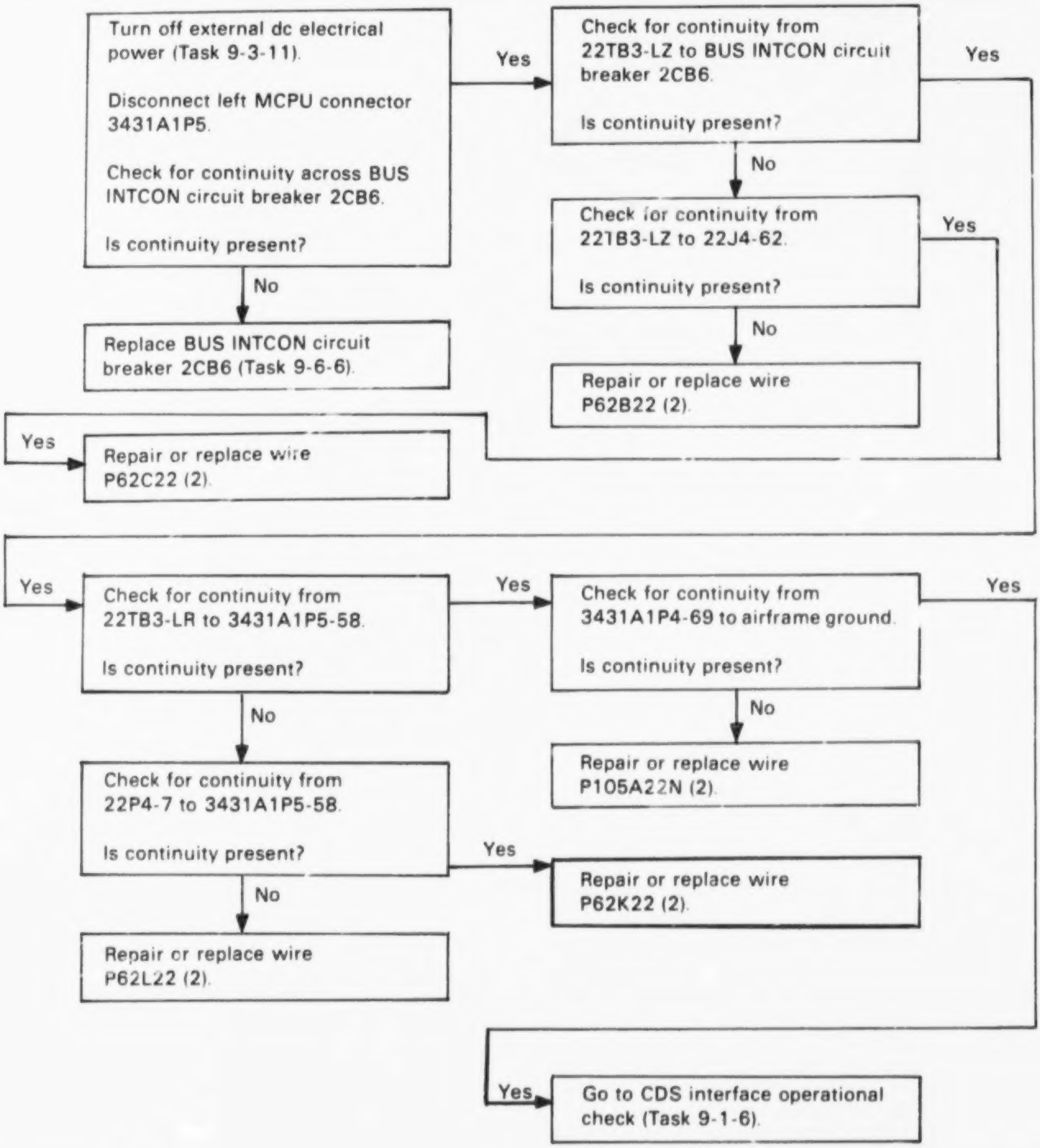
Repair or replace wire P62K22 (2).

52. MPD DOES NOT DISPLAY BATTERY 2 VOLTAGE (BATT 2 SWITCH SET TO BATT 2) (CONT)

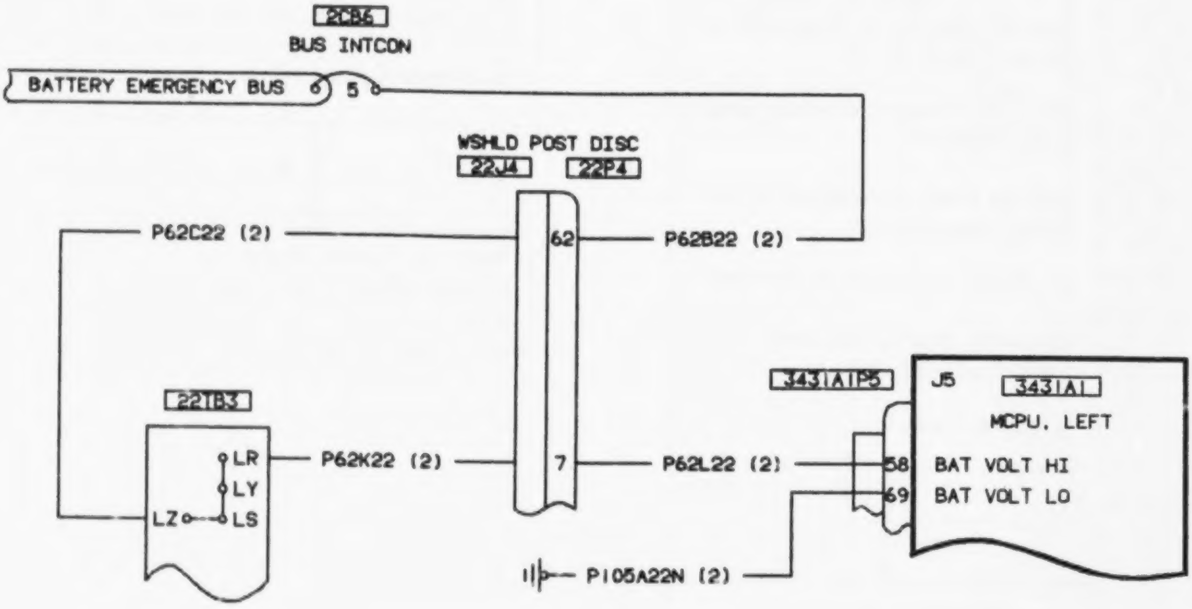

WSHLD POST DISC
22J4
22P4
22TB3
LR
LY
LZ
LS
P62K22 (2)
7
P62L22 (2)
343IAIP5
343IAI
J5
MCPU, LEFT
58
BAT VOLT HI
P105A22N (2)
69
BAT VOLT LO
WSHLD POST DISC
22J4
22P4
P62C22 (2)
62
P62B22 (2)
2CB6
BUS INTCON
5
BATTERY EMERGENCY BUS

406475-64A

53. MPD DOES NOT DISPLAY BATTERY 1 VOLTAGE (BATT 1 SWITCH SET TO BATT 1)

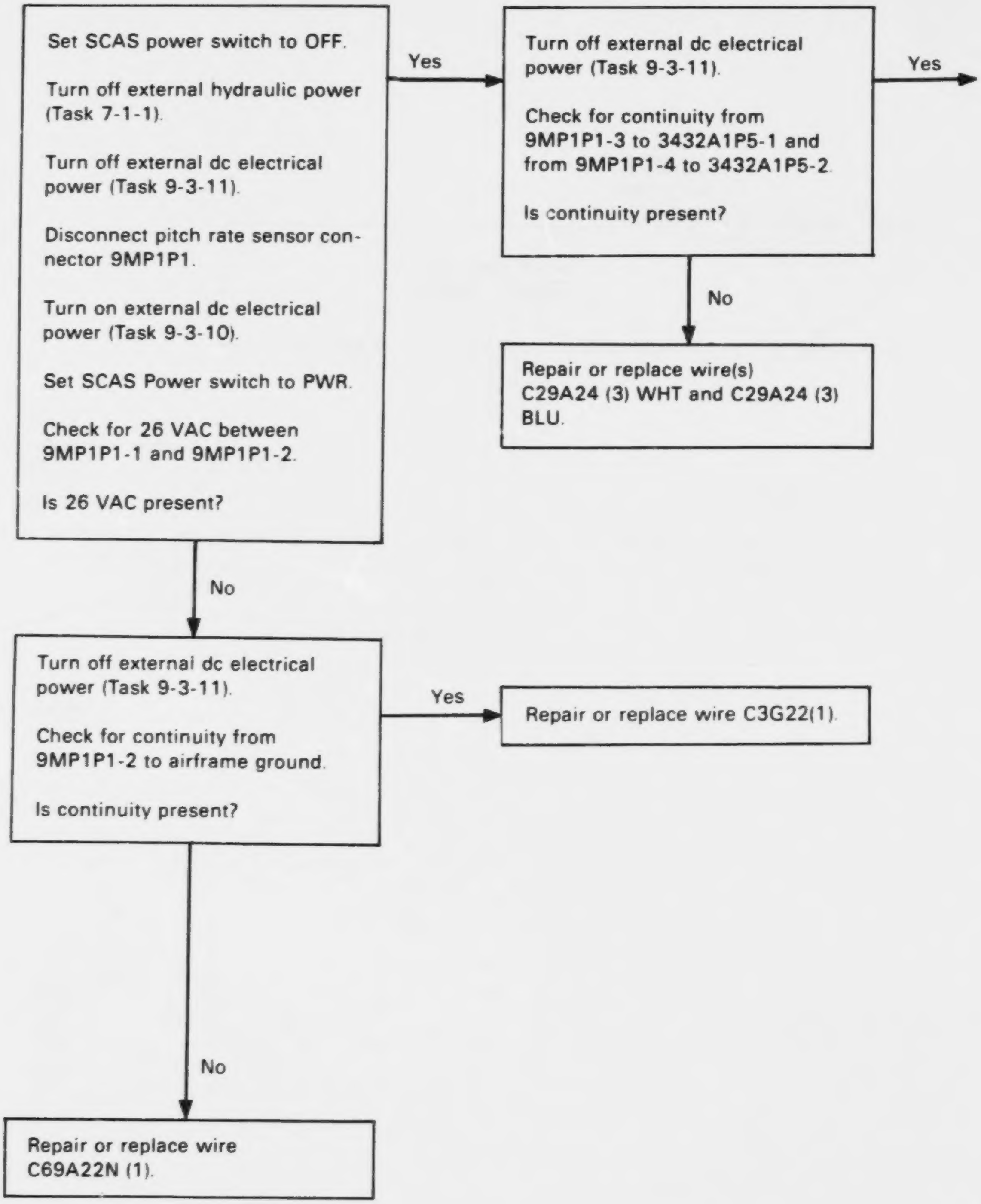

Turn off external dc electrical power (Task 9-3-11).
Disconnect left MCPU connector 3431A1P5.
Check for continuity across BUS INTCON circuit breaker 2CB6.
Is continuity present?
No
Replace BUS INTCON circuit breaker 2CB6 (Task 9-6-6).
Yes
Check for continuity from 22TB3-LZ to BUS INTCON circuit breaker 2CB6.
Is continuity present?
No
Check for continuity from 22TB3-LZ to 22J4-62.
Is continuity present?
No
Repair or replace wire P62B22 (2).
Yes
Yes
Repair or replace wire P62C22 (2).
Yes
Yes
Check for continuity from 22TB3-LR to 3431A1P5-58.
Is continuity present?
No
Check for continuity from 22P4-7 to 3431A1P5-58.
Is continuity present?
No
Repair or replace wire P62L22 (2).
Yes
Repair or replace wire P62K22 (2).
Yes
Check for continuity from 3431A1P4-69 to airframe ground.
Is continuity present?
No
Repair or replace wire P105A22N (2).
Yes
Yes
Go to CDS interface operational check (Task 9-1-6).

53. MPD DOES NOT DISPLAY BATTERY 1 VOLTAGE (BATT 1 SWITCH SET TO BATT 1) (CONT)


2CB6
BUS INTCON
BATTERY EMERGENCY BUS
5
WSHLD POST DISC
22J4
22P4
P62C22 (2)
62
P62B22 (2)
22TB3
LR
LY
LZ
LS
P62K22 (2)
7
P62L22 (2)
3431A1P5
J5
3431A1
MCPU, LEFT
58
69
BAT VOLT HI
BAT VOLT LO
P105A22N (2)

406475-48A

54. PITCH RATE SENSOR FAILURE CODE 21 IS DISPLAYED ON MFD



Set SCAS power switch to OFF.

Turn off external hydraulic power (Task 7-1-1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect pitch rate sensor connector 9MP1P1.

Turn on external dc electrical power (Task 9-3-10).

Set SCAS Power switch to PWR.

Check for 26 VAC between 9MP1P1-1 and 9MP1P1-2.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 9MP1P1-3 to 3432A1P5-1 and from 9MP1P1-4 to 3432A1P5-2.

Is continuity present?

Repair or replace wire(s) C29A24 (3) WHT and C29A24 (3) BLU.

Turn off external dc electrical power (Task 9-3-11).

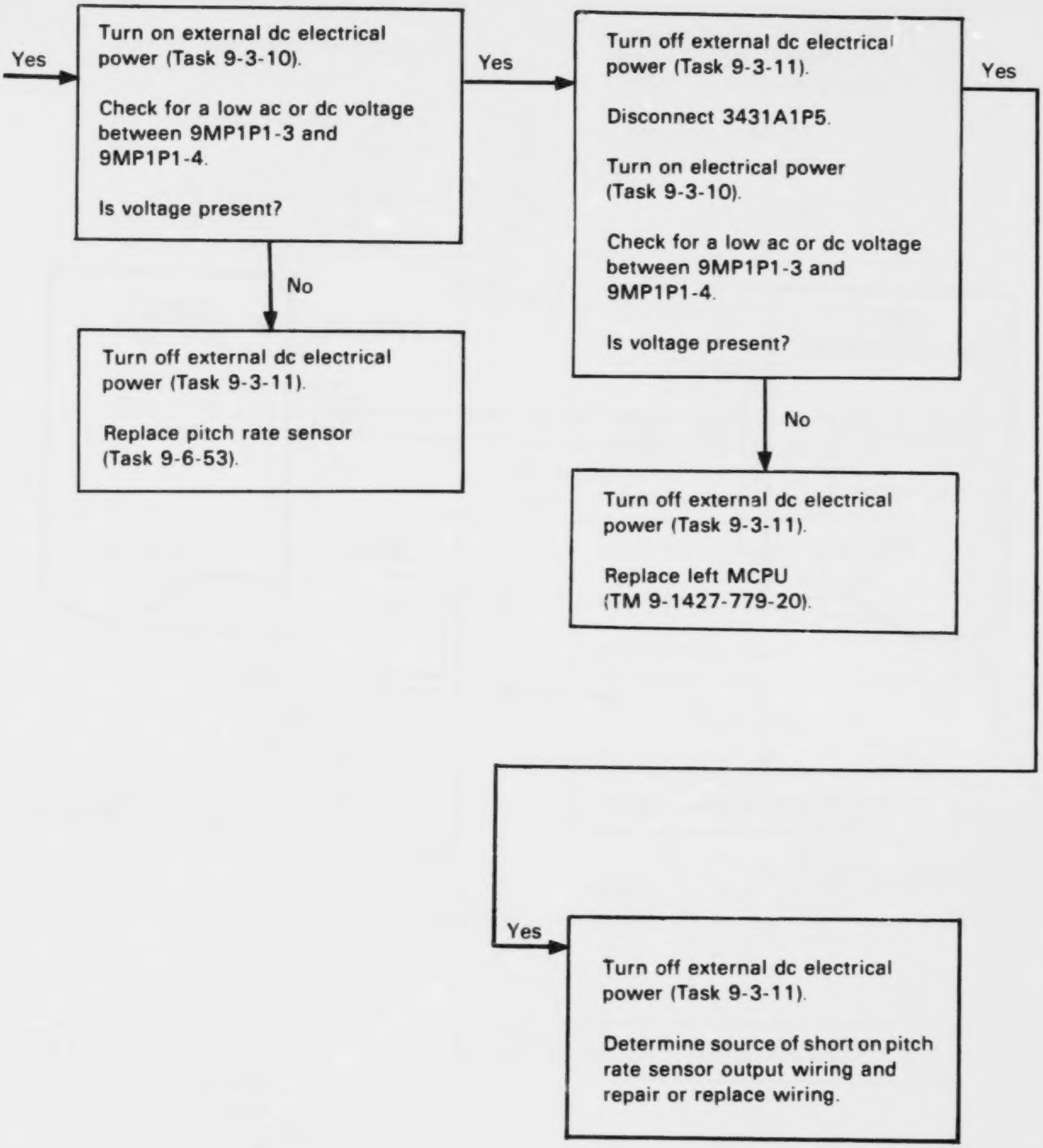
Check for continuity from 9MP1P1-2 to airframe ground.

Is continuity present?

Repair or replace wire C3G22(1).

Repair or replace wire C69A22N (1).

54. PITCH RATE SENSOR FAILURE CODE 21 IS DISPLAYED ON MFD (CONT)



Turn on external dc electrical power (Task 9-3-10).

Check for a low ac or dc voltage between 9MP1P1-3 and 9MP1P1-4.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Replace pitch rate sensor (Task 9-6-53).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Turn on electrical power (Task 9-3-10).

Check for a low ac or dc voltage between 9MP1P1-3 and 9MP1P1-4.

Is voltage present?

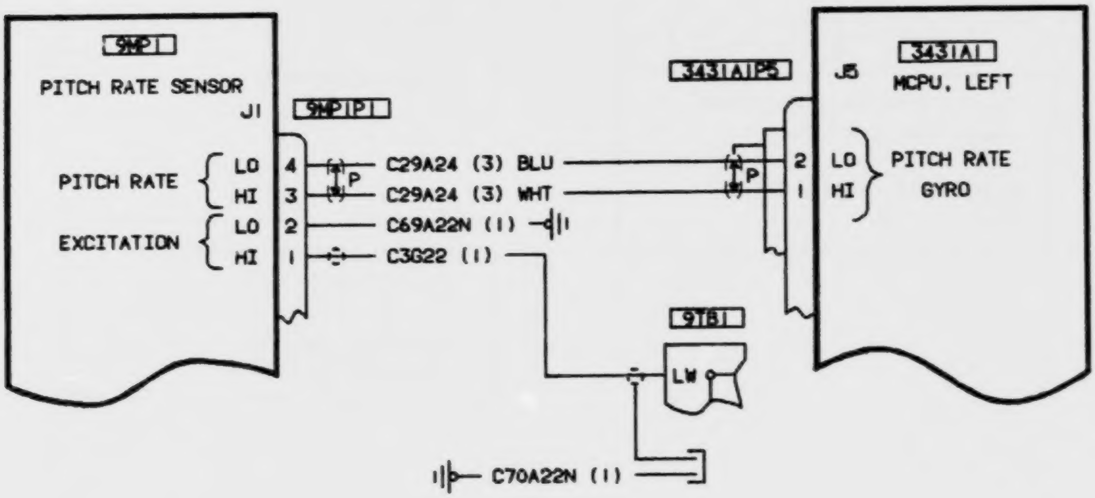
Turn off external dc electrical power (Task 9-3-11).

Replace left MCPU (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

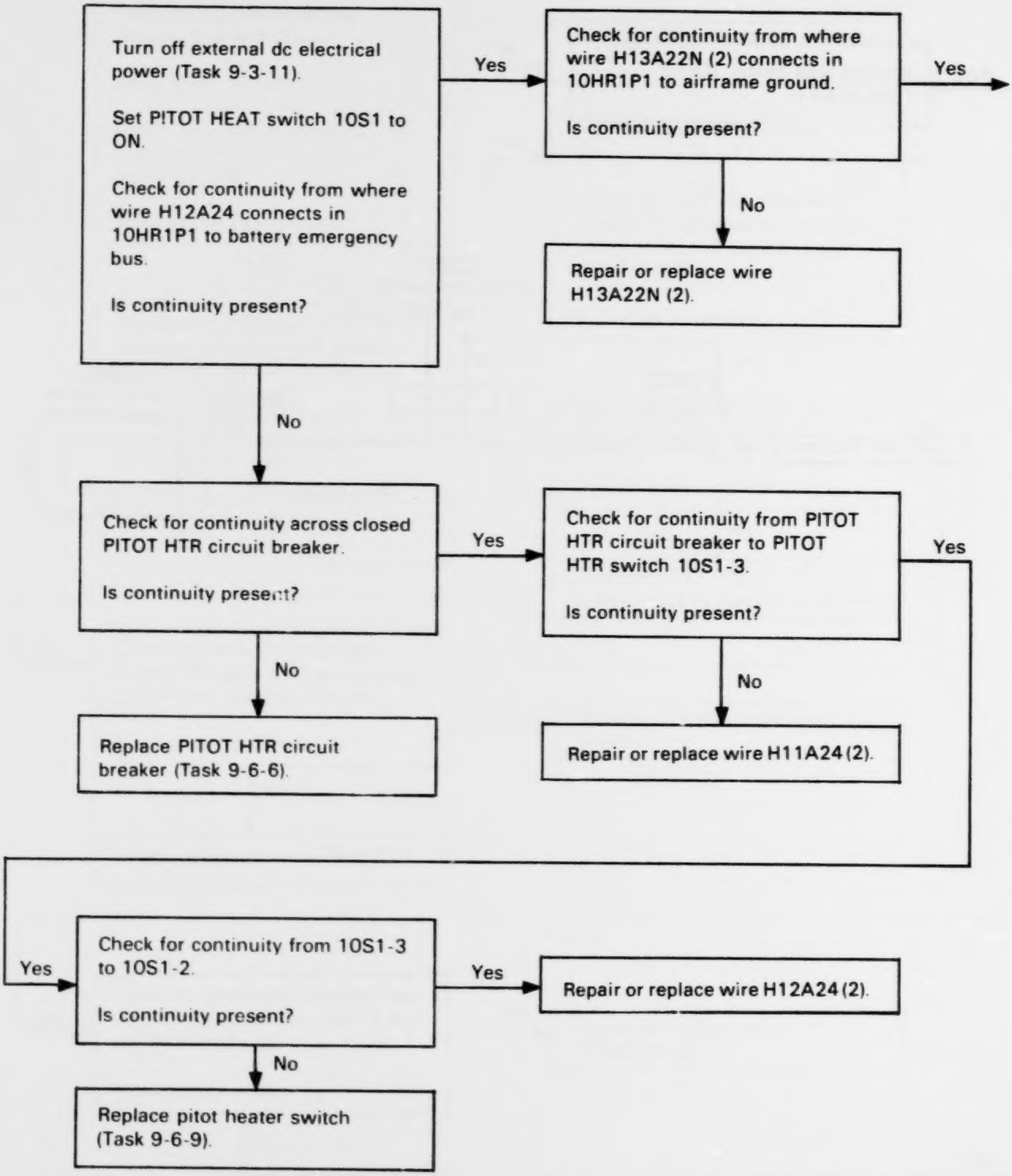
Determine source of short on pitch rate sensor output wiring and repair or replace wiring.

54. PITCH RATE SENSOR FAILURE CODE 21 IS DISPLAYED ON MFD (CONT)


9MP1
PITCH RATE SENSOR
J1
9MP1P1
PITCH RATE
LO 4
HI 3
EXCITATION
LO 2
HI 1
P
C29A24 (3) BLU
C29A24 (3) WHT
C69A22N (1)
C3G22 (1)
3431A1P5
J5
3431A1
MCPU, LEFT
2 LO
1 HI
PITCH RATE GYRO
9TB1
LW
C70A22N (1)

406475-21A

55. PITOT TUBE WILL NOT HEAT



Turn off external dc electrical power (Task 9-3-11).

Set PITOT HEAT switch 10S1 to ON.

Check for continuity from where wire H12A24 connects in 10HR1P1 to battery emergency bus.

Is continuity present?

Check for continuity from where wire H13A22N (2) connects in 10HR1P1 to airframe ground.

Is continuity present?

Repair or replace wire H13A22N (2).

Check for continuity across closed PITOT HTR circuit breaker.

Is continuity present?

Replace PITOT HTR circuit breaker (Task 9-6-6).

Check for continuity from PITOT HTR circuit breaker to PITOT HTR switch 10S1-3.

Is continuity present?

Repair or replace wire H11A24 (2).

Check for continuity from 10S1-3 to 10S1-2.

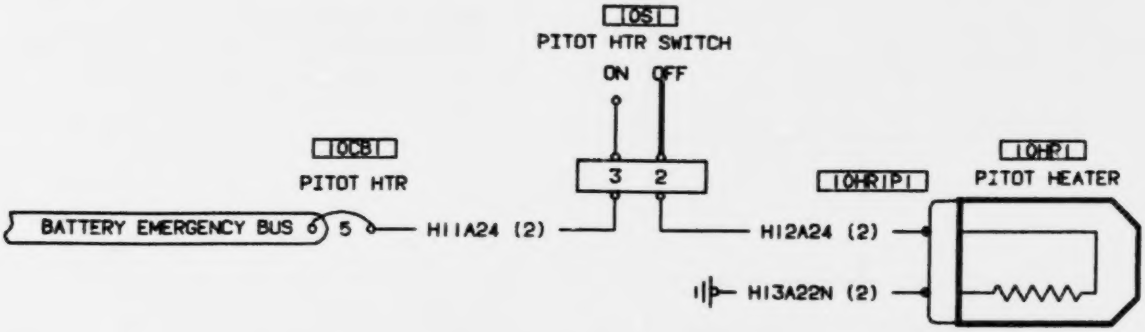
Is continuity present?

Repair or replace wire H12A24 (2).

Replace pitot heater switch (Task 9-6-9).

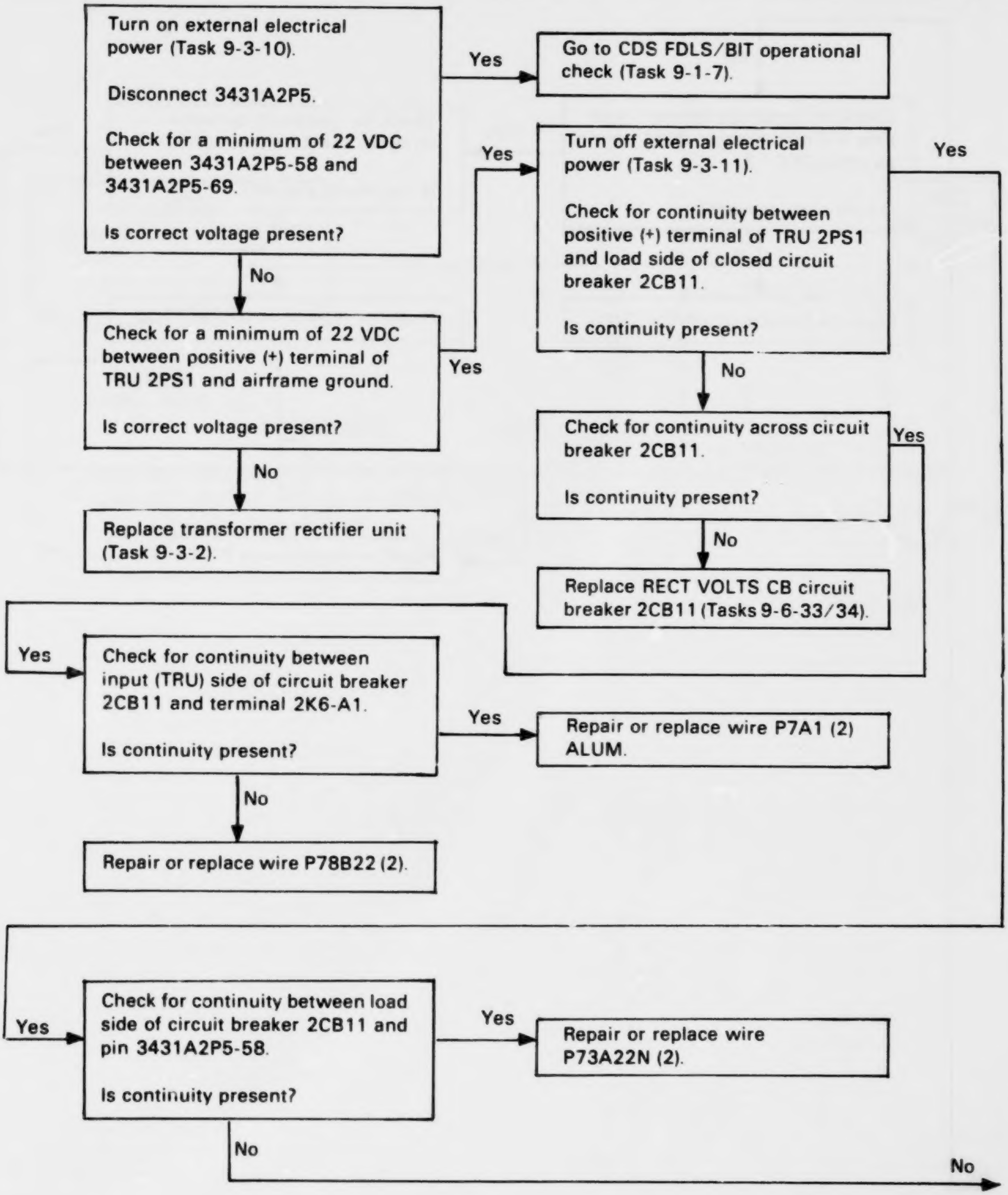
55. PITOT TUBE WILL NOT HEAT (CONT)

Yes → Replace pitot heater 10HR1 (Task 8-3-11).

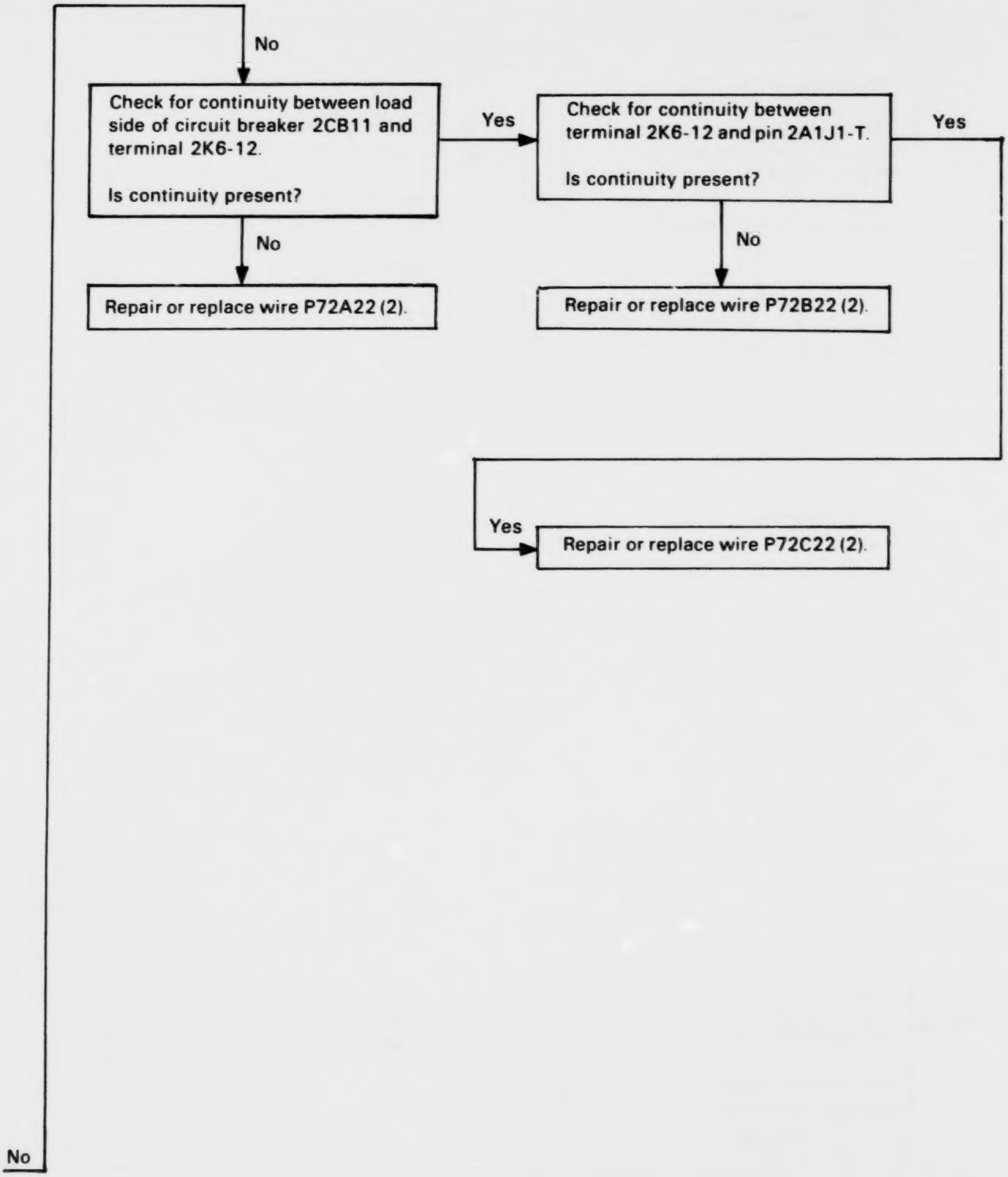

10S1
PITOT HTR SWITCH
ON
OFF
3
2
10CB1
PITOT HTR
BATTERY EMERGENCY BUS
6
5
H11A24 (2)
H12A24 (2)
H13A22N (2)
10HR1P1
10HP1
PITOT HEATER

406475-43A

56. RECT FAIL CAUTION MESSAGE NOT DISPLAYED ON MFD (RECT CIRCUIT BREAKER OPEN AND AC AND DC EXTERNAL POWER APPLIED)


Turn on external electrical power (Task 9-3-10).
Disconnect 3431A2P5.
Check for a minimum of 22 VDC between 3431A2P5-58 and 3431A2P5-69.
Is correct voltage present?
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7).
No
Check for a minimum of 22 VDC between positive (+) terminal of TRU 2PS1 and airframe ground.
Is correct voltage present?
Yes
Turn off external electrical power (Task 9-3-11).
Check for continuity between positive (+) terminal of TRU 2PS1 and load side of closed circuit breaker 2CB11.
Is continuity present?
Yes
No
Replace transformer rectifier unit (Task 9-3-2).
No
Check for continuity across circuit breaker 2CB11.
Is continuity present?
Yes
No
Replace RECT VOLTS CB circuit breaker 2CB11 (Tasks 9-6-33/34).
Yes
Check for continuity between input (TRU) side of circuit breaker 2CB11 and terminal 2K6-A1.
Is continuity present?
Yes
Repair or replace wire P7A1 (2) ALUM.
No
Repair or replace wire P78B22 (2).
Yes
Check for continuity between load side of circuit breaker 2CB11 and pin 3431A2P5-58.
Is continuity present?
Yes
Repair or replace wire P73A22N (2).
No
No

56. RECT FAIL CAUTION MESSAGE NOT DISPLAYED ON MFD (RECT CIRCUIT BREAKER OPEN AND AC AND DC EXTERNAL POWER APPLIED) (CONT)



Check for continuity between load side of circuit breaker 2CB11 and terminal 2K6-12.

Is continuity present?

Repair or replace wire P72A22 (2).

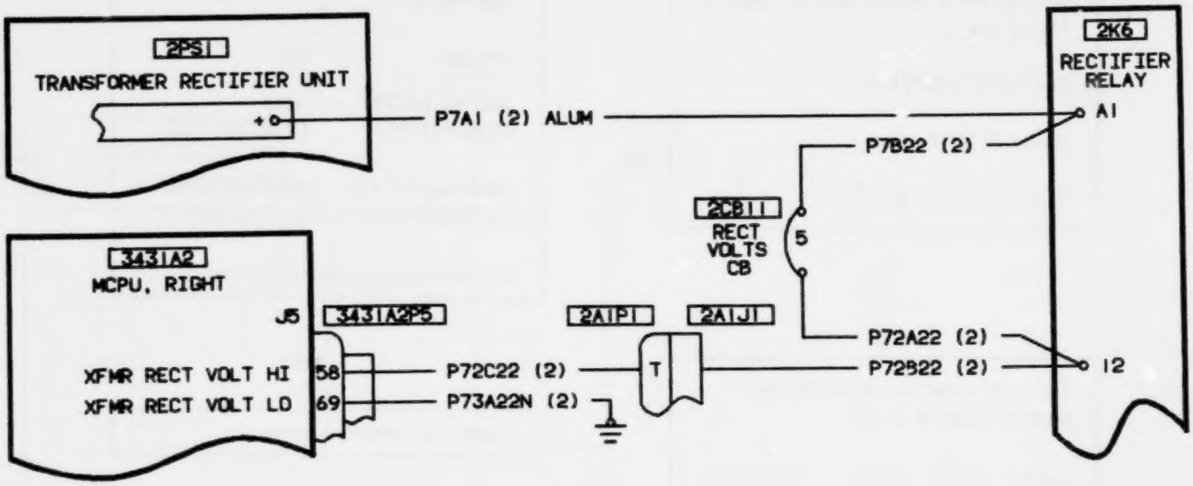
Check for continuity between terminal 2K6-12 and pin 2A1J1-T.

Is continuity present?

Repair or replace wire P72B22 (2).

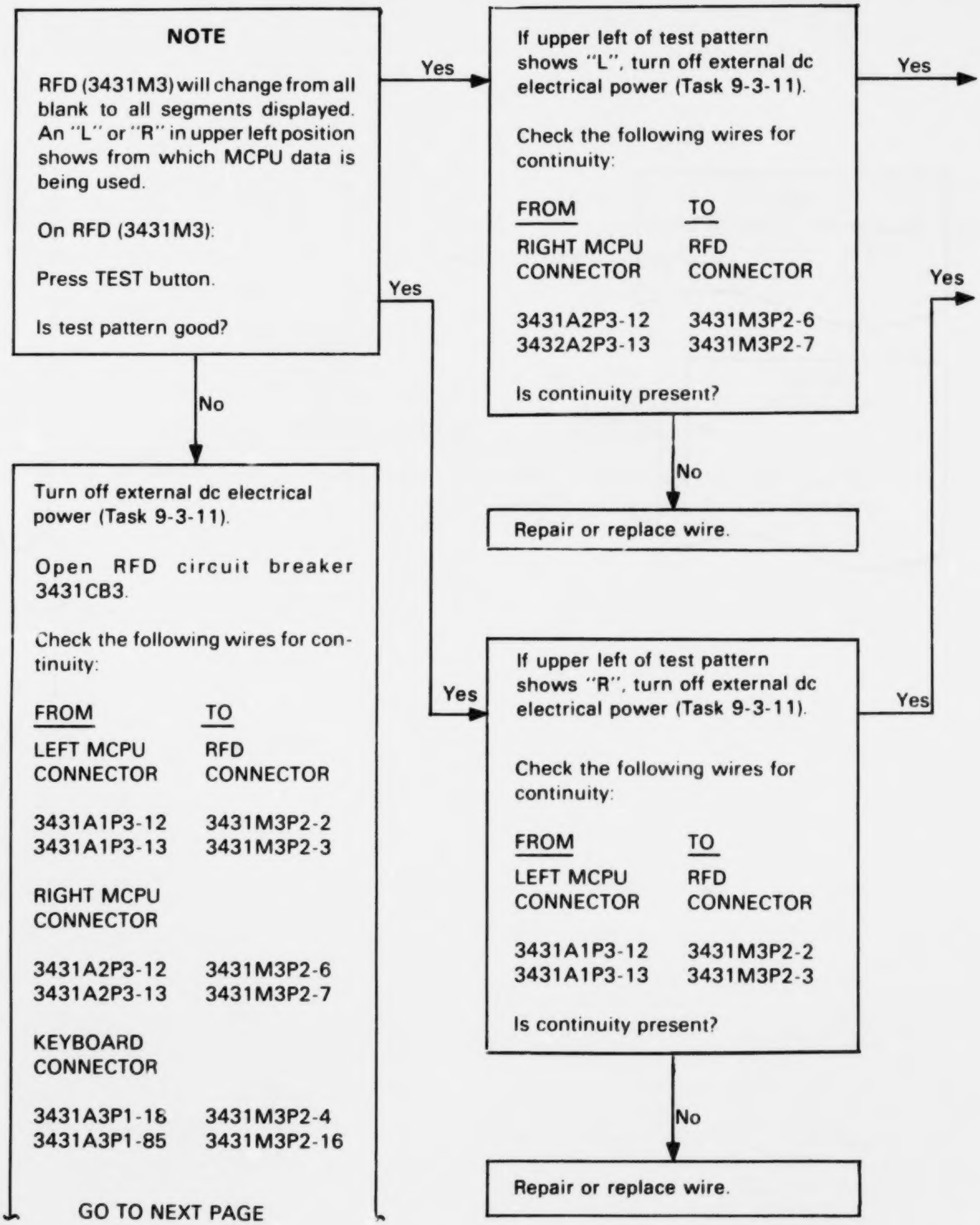
Repair or replace wire P72C22 (2).

56. RECT FAIL CAUTION MESSAGE NOT DISPLAYED ON MFD (RECT CIRCUIT BREAKER OPEN AND AC AND DC EXTERNAL POWER APPLIED) (CONT)


2PS1
TRANSFORMER RECTIFIER UNIT
+
P7A1 (2) ALUM
2K6
RECTIFIER RELAY
A1
P7B22 (2)
2CB11
RECT VOLTS CB
5
3431A2
MCPU, RIGHT
J5
3431A2P5
2A1P1
2A1J1
XFMR RECT VOLT HI
58
XFMR RECT VOLT LO
69
P72C22 (2)
P73A22N (2)
T
P72A22 (2)
P72B22 (2)
12

406475-229

57. RFD TEST PATTERN ABSENT IN DISPLAY CHECK



NOTE

RFD (3431M3) will change from all blank to all segments displayed. An "L" or "R" in upper left position shows from which MCPU data is being used.

On RFD (3431M3):

Press TEST button.

Is test pattern good?

If upper left of test pattern shows "L", turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity:

FROM	TO
RIGHT MCPU CONNECTOR	RFD CONNECTOR
3431A2P3-12	3431M3P2-6
3432A2P3-13	3431M3P2-7

Is continuity present?

Repair or replace wire.

Turn off external dc electrical power (Task 9-3-11).

Open RFD circuit breaker 3431CB3.

Check the following wires for continuity:

FROM	TO
LEFT MCPU CONNECTOR	RFD CONNECTOR
3431A1P3-12	3431M3P2-2
3431A1P3-13	3431M3P2-3
RIGHT MCPU CONNECTOR	
3431A2P3-12	3431M3P2-6
3431A2P3-13	3431M3P2-7
KEYBOARD CONNECTOR	
3431A3P1-18	3431M3P2-4
3431A3P1-85	3431M3P2-16

GO TO NEXT PAGE

If upper left of test pattern shows "R", turn off external dc electrical power (Task 9-3-11).

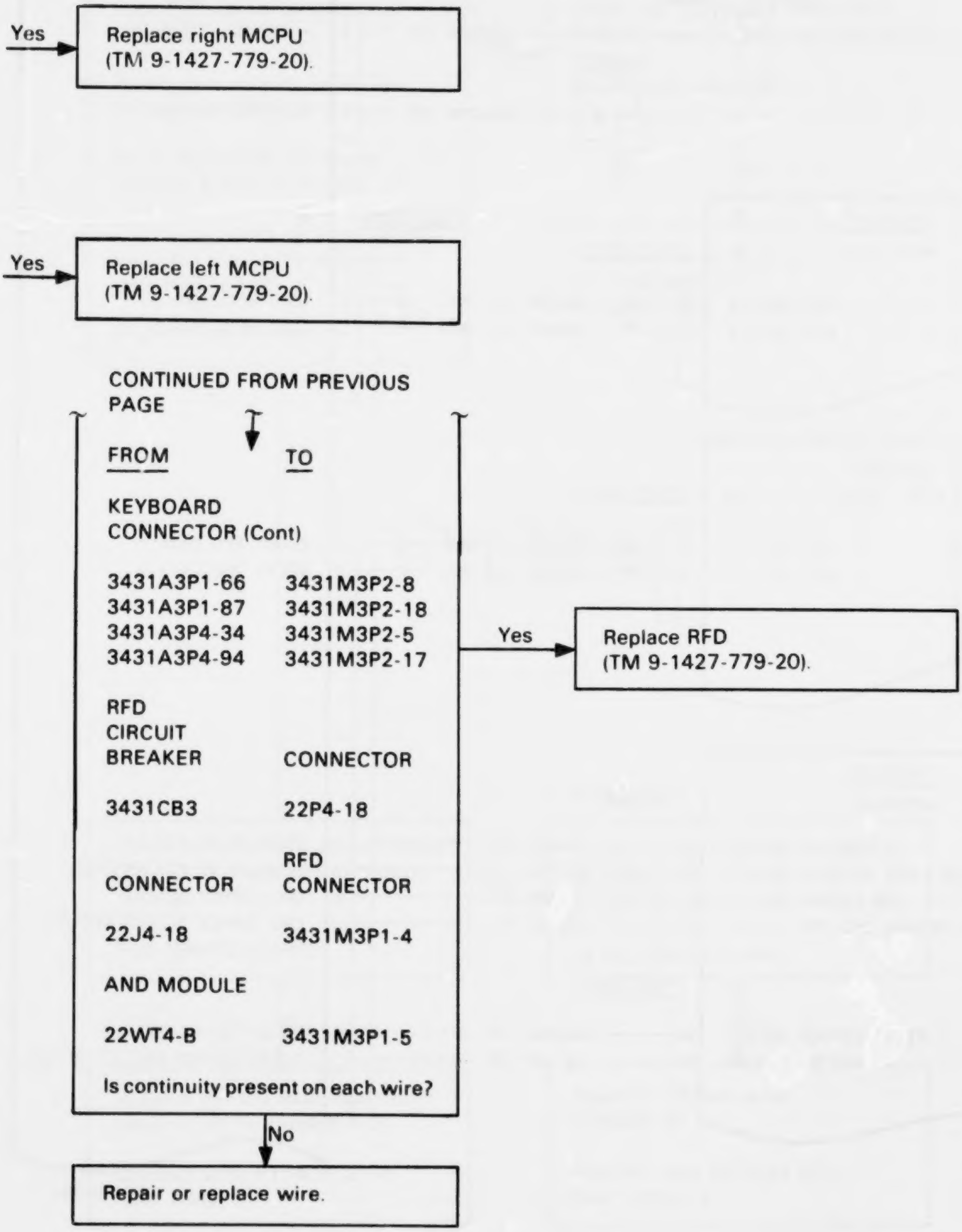
Check the following wires for continuity:

FROM	TO
LEFT MCPU CONNECTOR	RFD CONNECTOR
3431A1P3-12	3431M3P2-2
3431A1P3-13	3431M3P2-3

Is continuity present?

Repair or replace wire.

57. RFD TEST PATTERN ABSENT IN DISPLAY CHECK (CONT)



Replace right MCPU (TM 9-1427-779-20).

Replace left MCPU (TM 9-1427-779-20).

CONTINUED FROM PREVIOUS PAGE

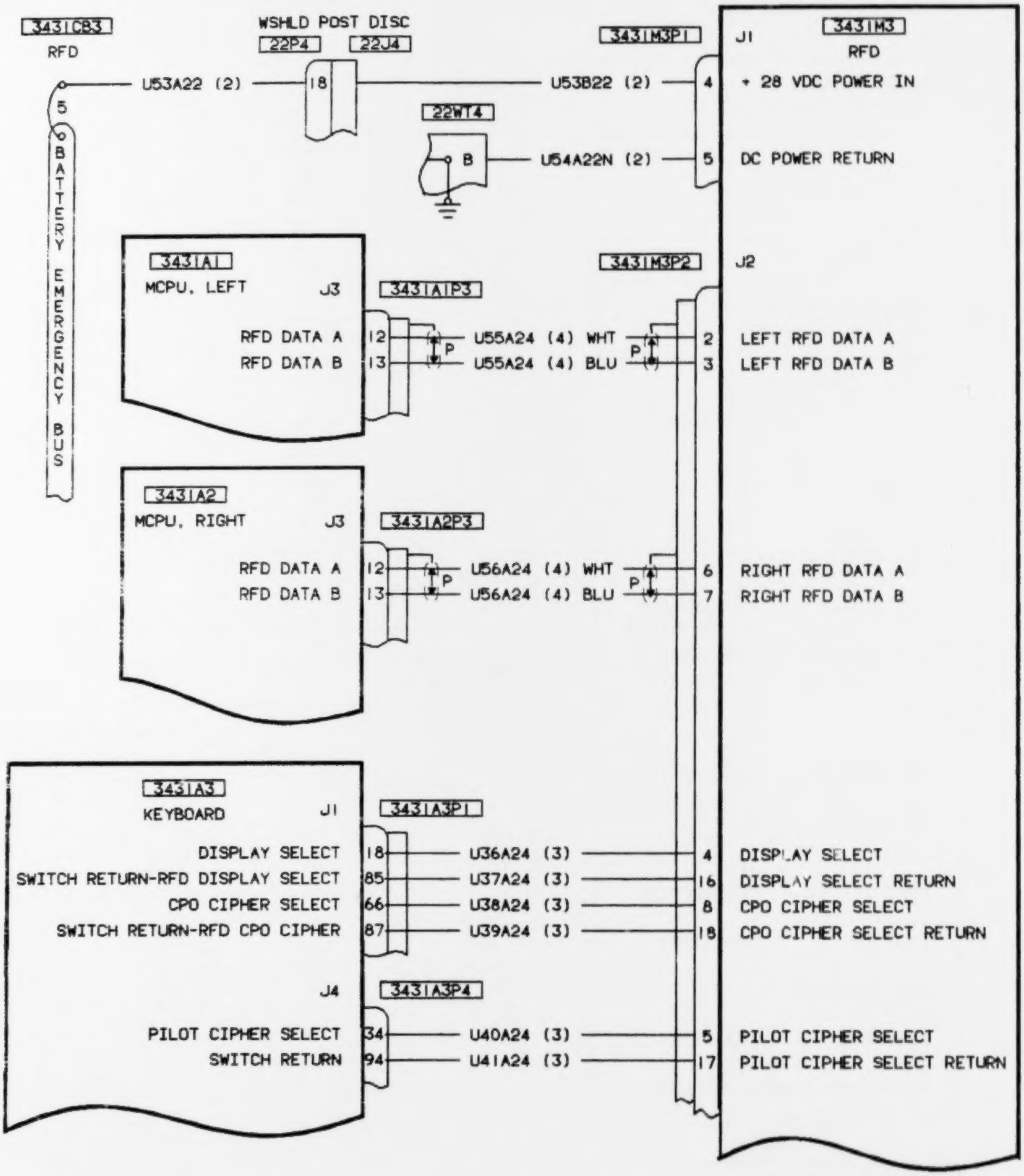
FROM	TO
KEYBOARD CONNECTOR (Cont)	
3431A3P1-66	3431M3P2-8
3431A3P1-87	3431M3P2-18
3431A3P4-34	3431M3P2-5
3431A3P4-94	3431M3P2-17
RFD CIRCUIT BREAKER	CONNECTOR
3431CB3	22P4-18
CONNECTOR	RFD CONNECTOR
22J4-18	3431M3P1-4
AND MODULE	
22WT4-B	3431M3P1-5

Is continuity present on each wire?

Replace RFD (TM 9-1427-779-20).

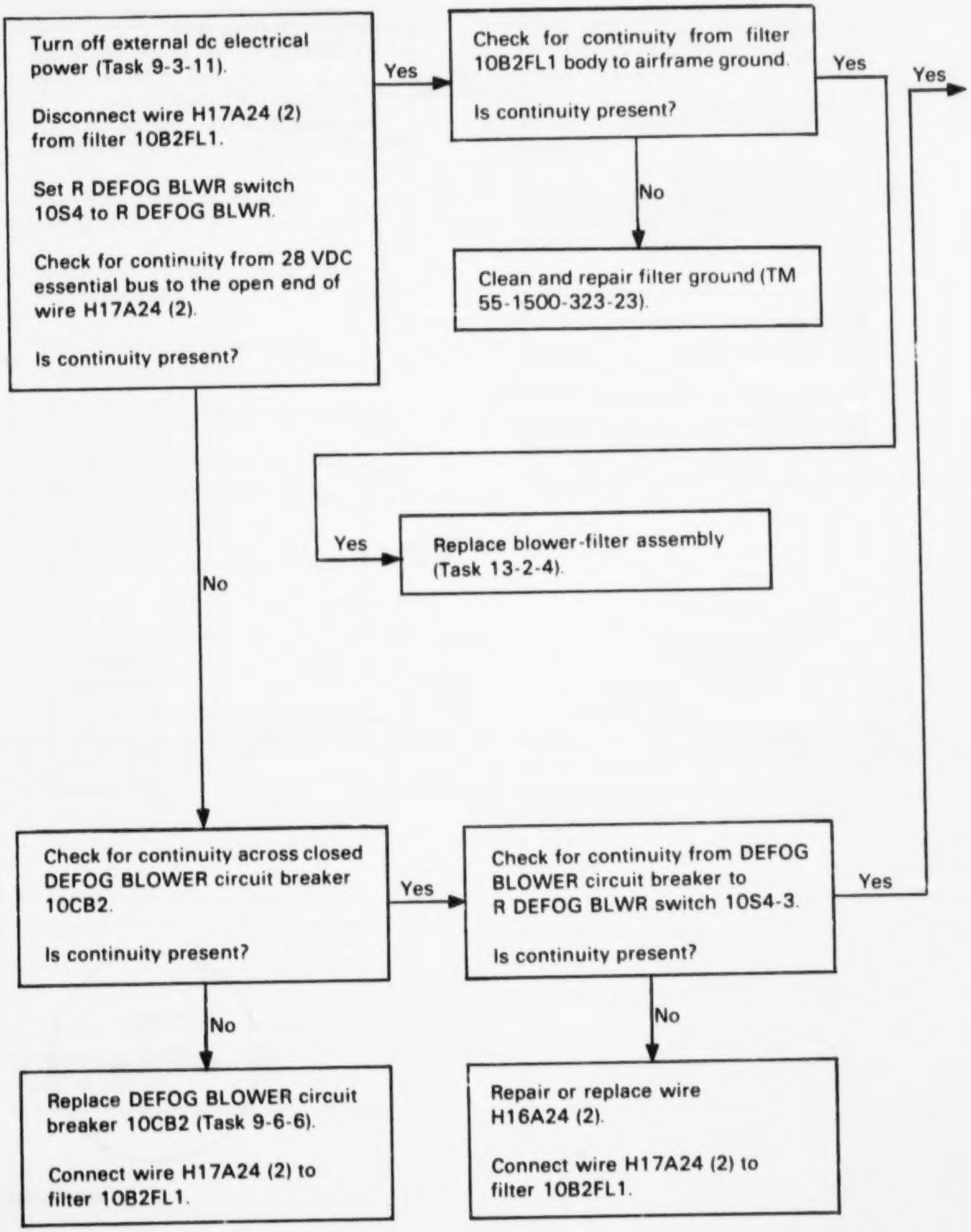
Repair or replace wire.

57. RFD TEST PATTERN ABSENT IN DISPLAY CHECK (CONT)


343ICB3
RFD
5
BATTERY EMERGENCY BUS
WSHLD POST DISC
22P4
22J4
18
U53A22 (2)
U53B22 (2)
22WT4
B
U54A22N (2)
343IM3PI
J1
343IM3
RFD
4
+ 28 VDC POWER IN
5
DC POWER RETURN
343IAI
MCPU, LEFT
J3
343IAIP3
RFD DATA A
RFD DATA B
12
13
P
U55A24 (4) WHT
U55A24 (4) BLU
343IM3P2
J2
2
3
LEFT RFD DATA A
LEFT RFD DATA B
343IA2
MCPU, RIGHT
J3
343IA2P3
RFD DATA A
RFD DATA B
12
13
U56A24 (4) WHT
U56A24 (4) BLU
6
7
RIGHT RFD DATA A
RIGHT RFD DATA B
343IA3
KEYBOARD
J1
343IA3PI
DISPLAY SELECT
SWITCH RETURN-RFD DISPLAY SELECT
CPO CIPHER SELECT
SWITCH RETURN-RFD CPO CIPHER
18
85
66
87
U36A24 (3)
U37A24 (3)
U38A24 (3)
U39A24 (3)
4
16
8
18
DISPLAY SELECT
DISPLAY SELECT RETURN
CPO CIPHER SELECT
CPO CIPHER SELECT RETURN
J4
343IA3P4
PILOT CIPHER SELECT
SWITCH RETURN
34
94
U40A24 (3)
U41A24 (3)
5
17
PILOT CIPHER SELECT
PILOT CIPHER SELECT RETURN

406475-35A

58. RIGHT DEFOG BLOWER DOES NOT OPERATE



Turn off external dc electrical power (Task 9-3-11).

Disconnect wire H17A24 (2) from filter 10B2FL1.

Set R DEFOG BLWR switch 10S4 to R DEFOG BLWR.

Check for continuity from 28 VDC essential bus to the open end of wire H17A24 (2).

Is continuity present?

Check for continuity from filter 10B2FL1 body to airframe ground.

Is continuity present?

Clean and repair filter ground (TM 55-1500-323-23).

Replace blower-filter assembly (Task 13-2-4).

Check for continuity across closed DEFOG BLOWER circuit breaker 10CB2.

Is continuity present?

Check for continuity from DEFOG BLOWER circuit breaker to R DEFOG BLWR switch 10S4-3.

Is continuity present?

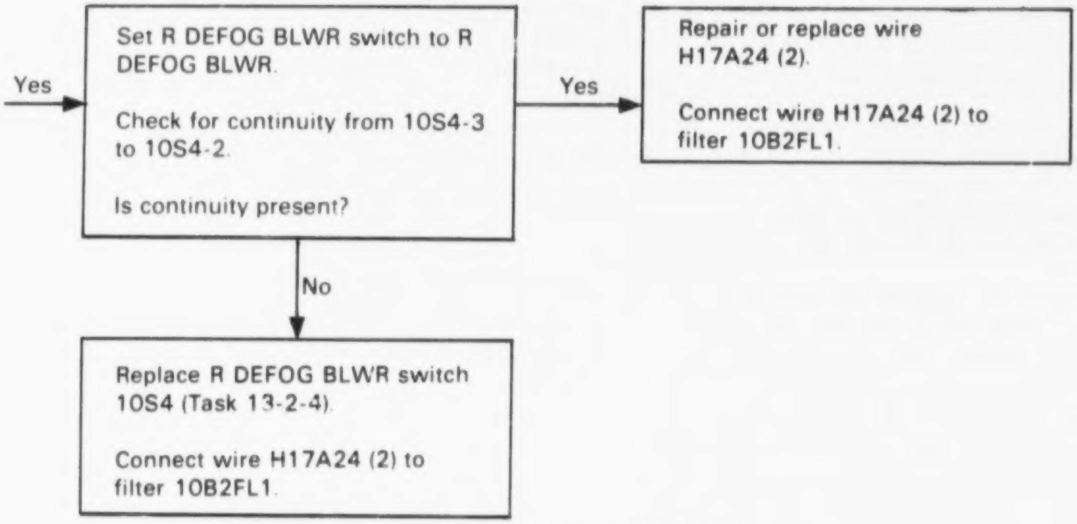
Replace DEFOG BLOWER circuit breaker 10CB2 (Task 9-6-6).

Connect wire H17A24 (2) to filter 10B2FL1.

Repair or replace wire H16A24 (2).

Connect wire H17A24 (2) to filter 10B2FL1.

58. RIGHT DEFOG BLOWER DOES NOT OPERATE (CONT)



Set R DEFOG BLWR switch to R DEFOG BLWR.

Check for continuity from 10S4-3 to 10S4-2.

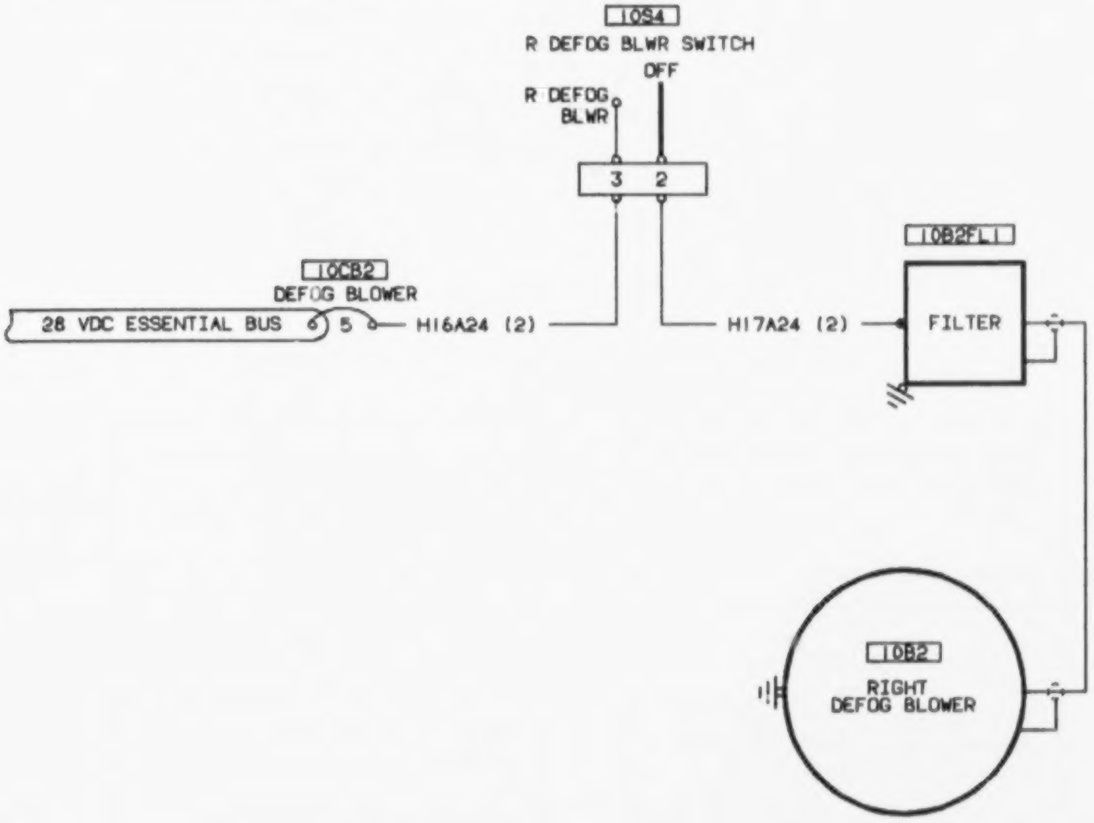
Is continuity present?

Yes: Repair or replace wire H17A24 (2).

Connect wire H17A24 (2) to filter 10B2FL1.

No: Replace R DEFOG BLWR switch 10S4 (Task 13-2-4).

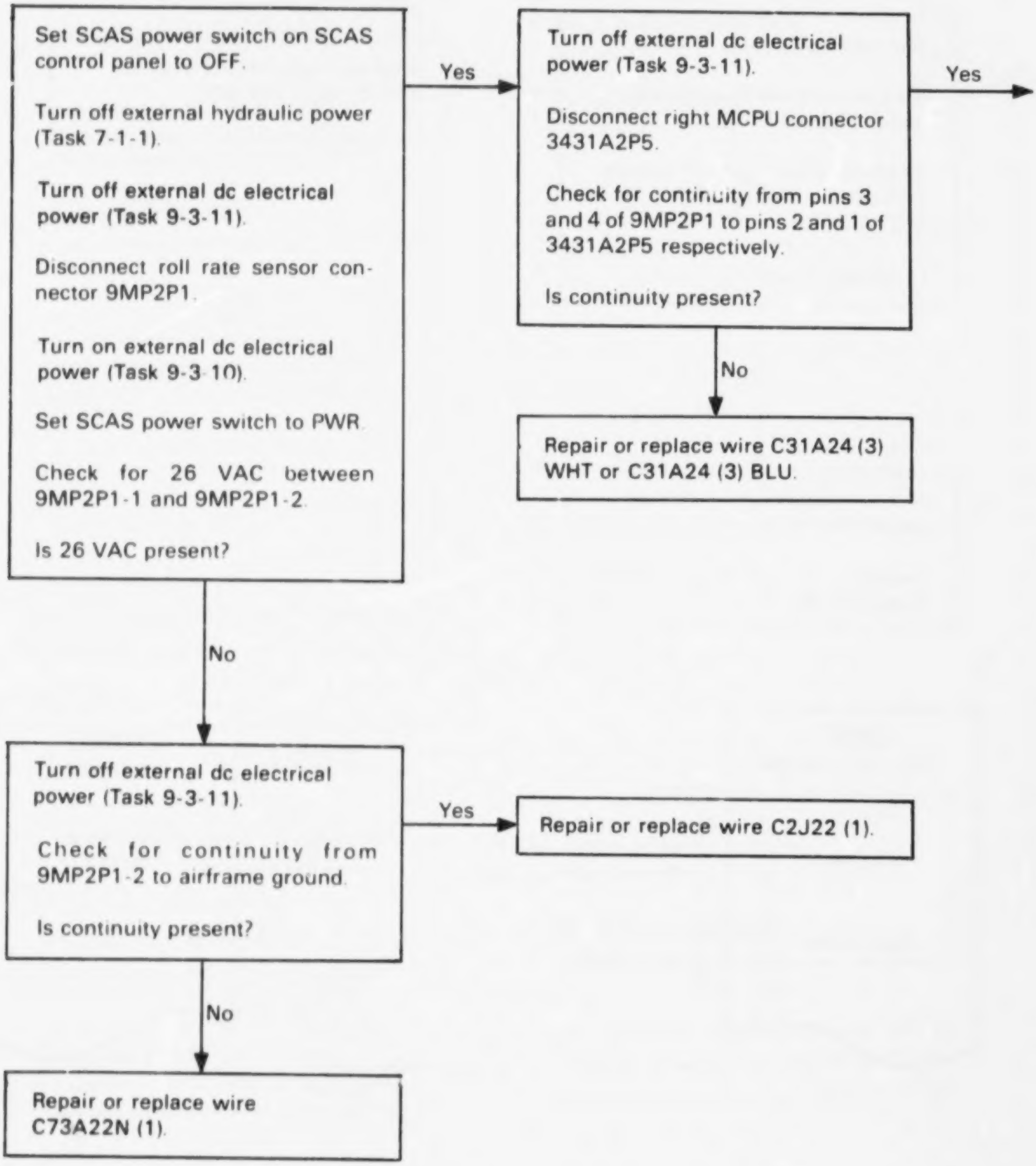
Connect wire H17A24 (2) to filter 10B2FL1.



10S4
R DEFOG BLWR SWITCH
OFF
R DEFOG BLWR
3
2
10CB2
DEFOG BLOWER
28 VDC ESSENTIAL BUS
5
H16A24 (2)
H17A24 (2)
10B2FL1
FILTER
10B2
RIGHT DEFOG BLOWER

406475-45A

59. ROLL RATE SENSOR FAILURE CODE 22 IS DISPLAYED ON MFD



Set SCAS power switch on SCAS control panel to OFF.

Turn off external hydraulic power (Task 7-1-1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect roll rate sensor connector 9MP2P1.

Turn on external dc electrical power (Task 9-3-10).

Set SCAS power switch to PWR.

Check for 26 VAC between 9MP2P1-1 and 9MP2P1-2.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Disconnect right MCPU connector 3431A2P5.

Check for continuity from pins 3 and 4 of 9MP2P1 to pins 2 and 1 of 3431A2P5 respectively.

Is continuity present?

Repair or replace wire C31A24 (3) WHT or C31A24 (3) BLU.

Turn off external dc electrical power (Task 9-3-11).

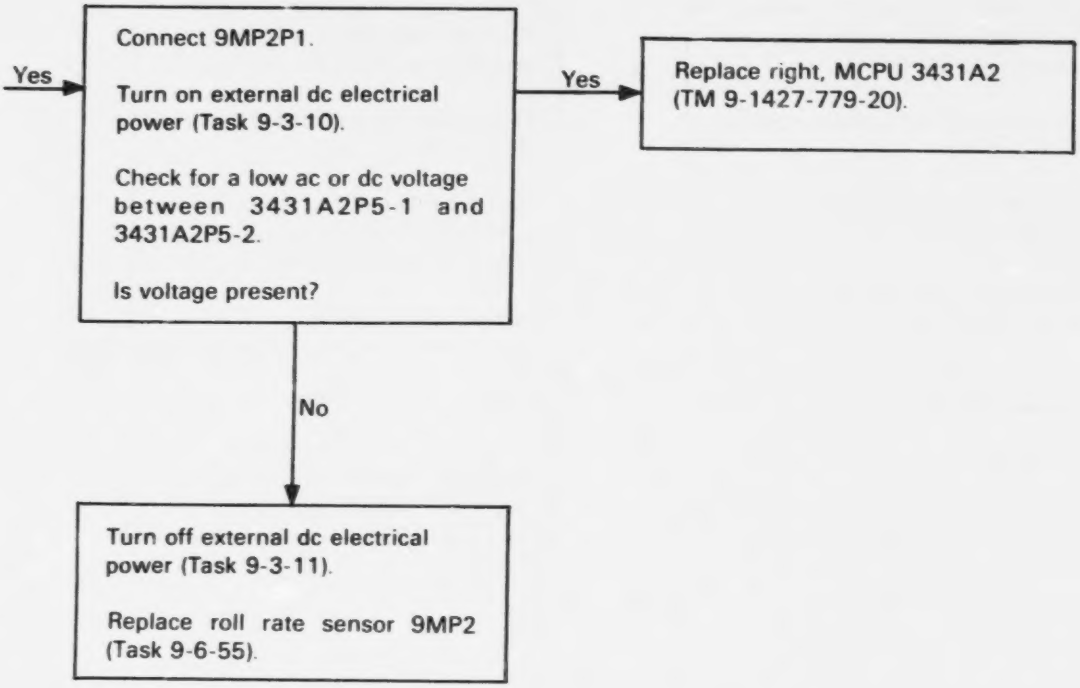
Check for continuity from 9MP2P1-2 to airframe ground.

Is continuity present?

Repair or replace wire C2J22 (1).

Repair or replace wire C73A22N (1).

59. ROLL RATE SENSOR FAILURE CODE 22 IS DISPLAYED ON MFD (CONT)



Connect 9MP2P1.

Turn on external dc electrical power (Task 9-3-10).

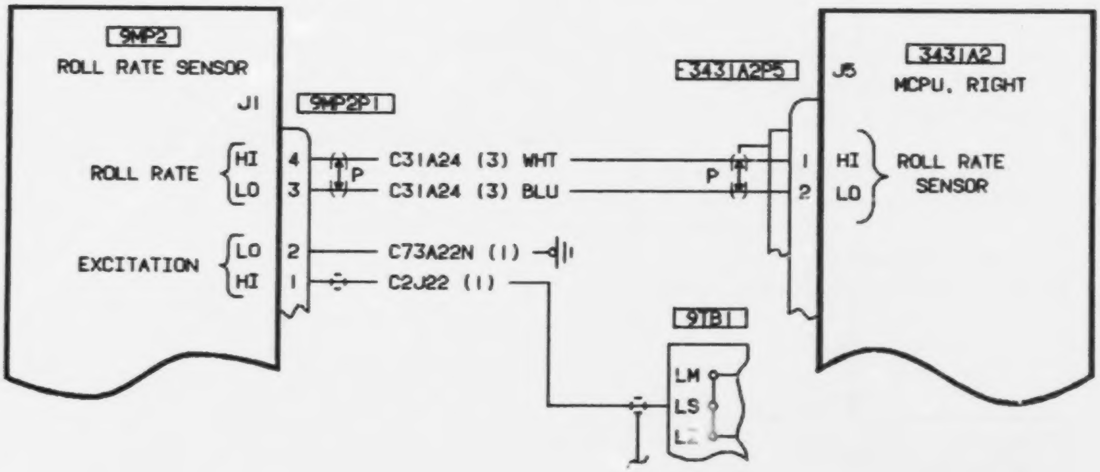
Check for a low ac or dc voltage between 3431A2P5-1 and 3431A2P5-2.

Is voltage present?

Replace right, MCPU 3431A2 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

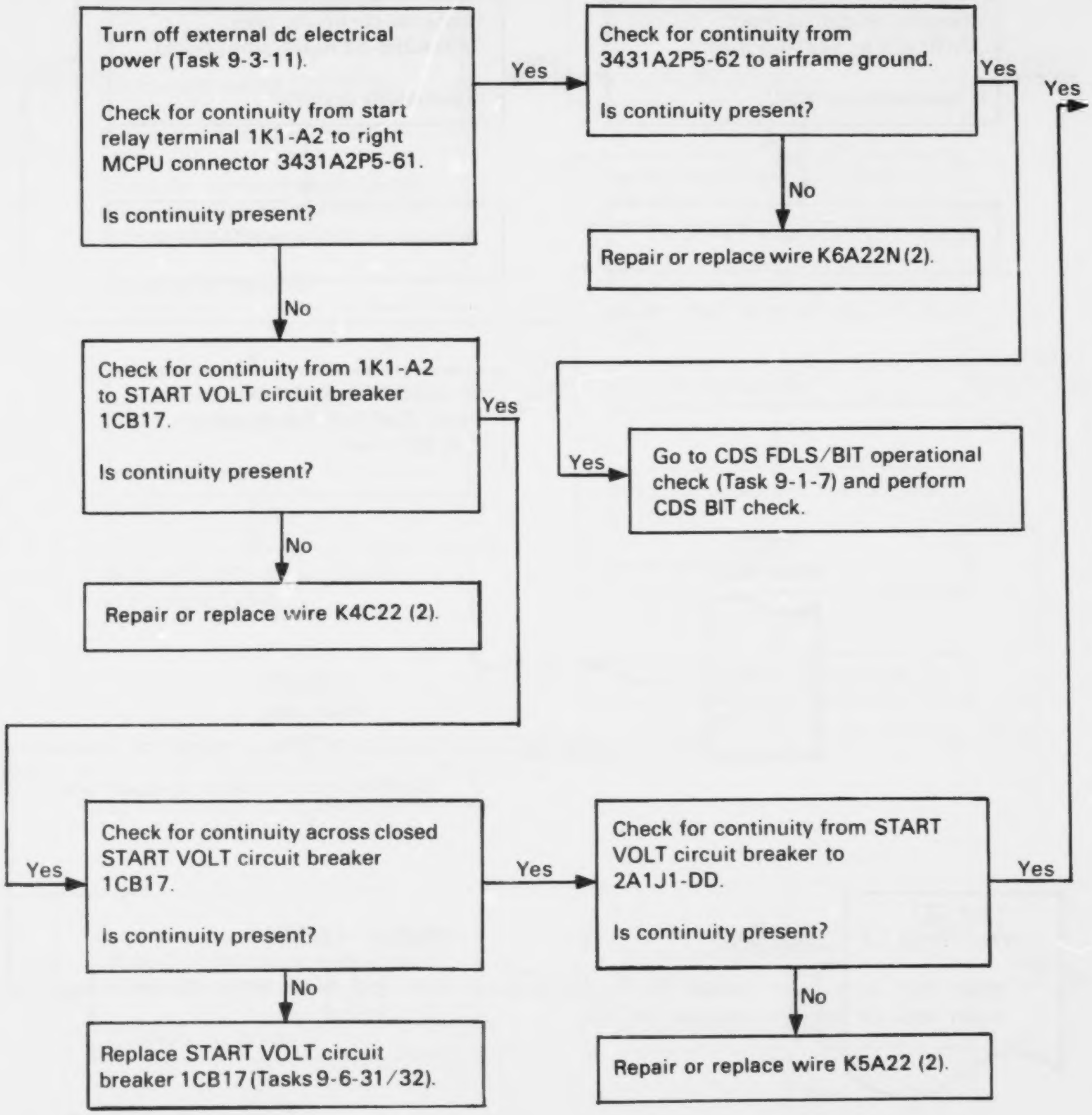
Replace roll rate sensor 9MP2 (Task 9-6-55).



9MP2
ROLL RATE SENSOR
J1
9MP2P1
ROLL RATE
HI
LO
4
3
EXCITATION
LO
HI
2
1
P
C31A24 (3) WHT
C31A24 (3) BLU
C73A22N (1)
C2J22 (1)
3431A2P5
J5
3431A2
MCPU, RIGHT
P
1
2
HI
LO
ROLL RATE SENSOR
9TB1
LM
LS
LZ

406475-24A

60. STARTER VOLTAGE INDICATION IS NOT PRESENT ON MPD DURING START



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from start relay terminal 1K1-A2 to right MCPU connector 3431A2P5-61.

Is continuity present?

Check for continuity from 3431A2P5-62 to airframe ground.

Is continuity present?

Repair or replace wire K6A22N (2).

Check for continuity from 1K1-A2 to START VOLT circuit breaker 1CB17.

Is continuity present?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Repair or replace wire K4C22 (2).

Check for continuity across closed START VOLT circuit breaker 1CB17.

Is continuity present?

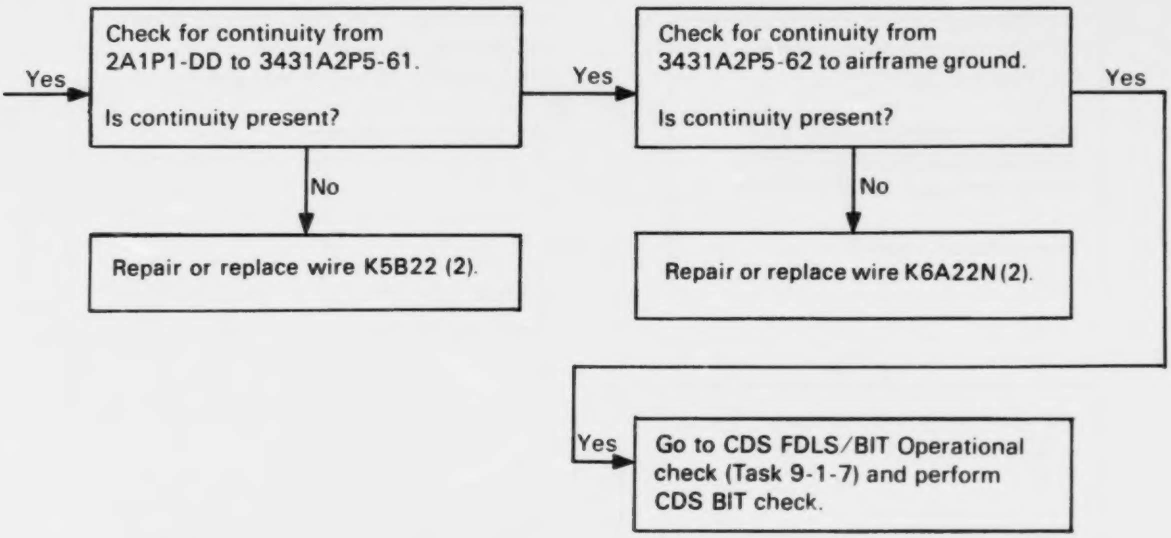
Check for continuity from START VOLT circuit breaker to 2A1J1-DD.

Is continuity present?

Replace START VOLT circuit breaker 1CB17 (Tasks 9-6-31/32).

Repair or replace wire K5A22 (2).

60. STARTER VOLTAGE INDICATION IS NOT PRESENT ON MPD DURING START (CONT)



Check for continuity from 2A1P1-DD to 3431A2P5-61.

Is continuity present?

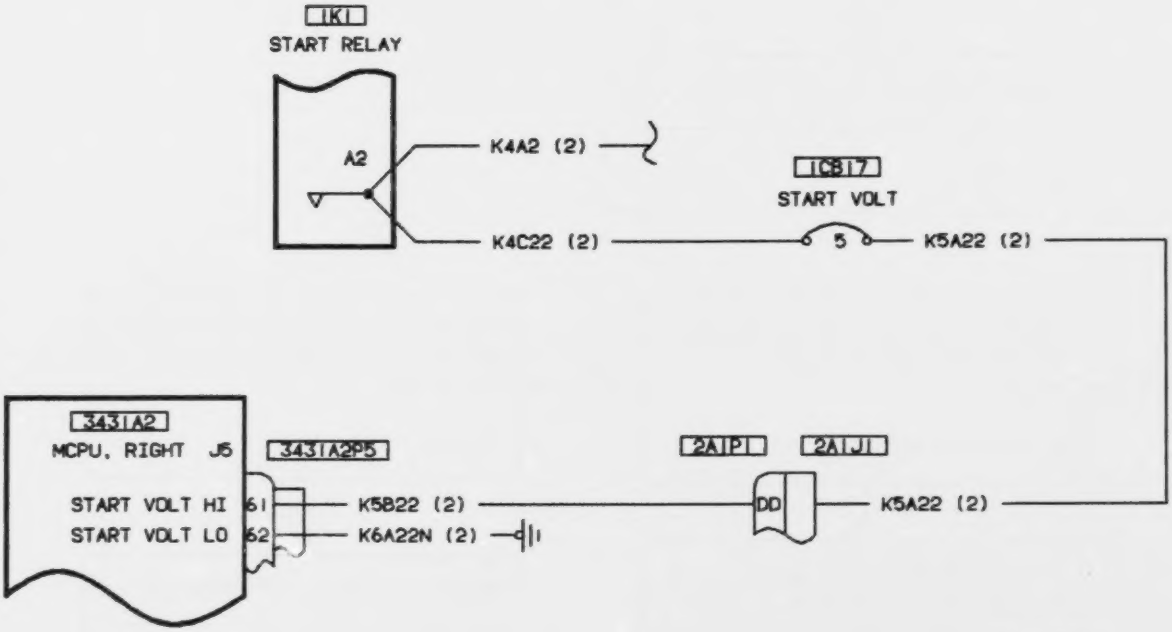
No: Repair or replace wire K5B22 (2).

Yes: Check for continuity from 3431A2P5-62 to airframe ground.

Is continuity present?

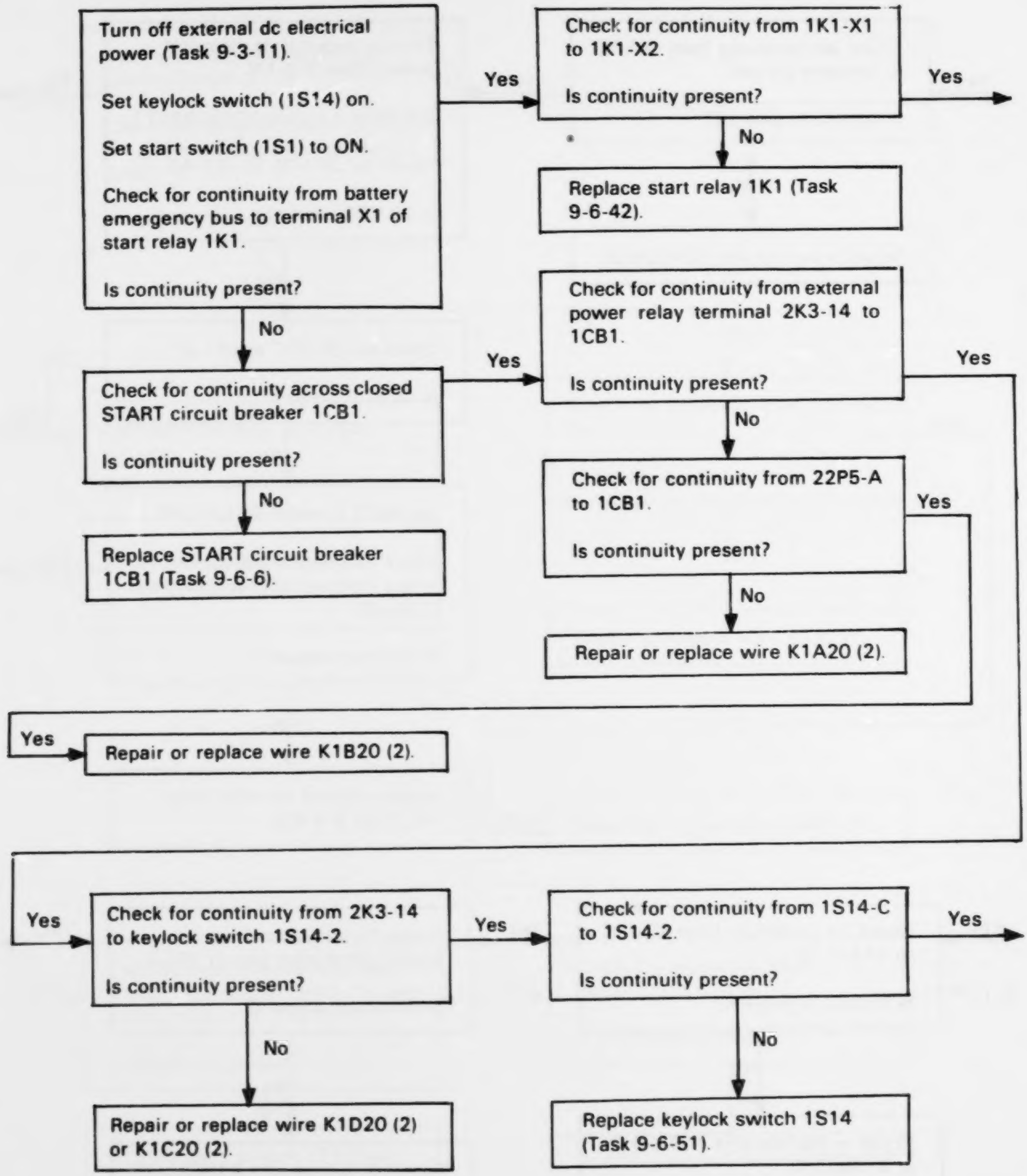
No: Repair or replace wire K6A22N (2).

Yes: Go to CDS FDLS/BIT Operational check (Task 9-1-7) and perform CDS BIT check.


1K1
START RELAY
A2
K4A2 (2)
K4C22 (2)
1CB17
START VOLT
5
K5A22 (2)
3431A2
MCPU, RIGHT J5
3431A2P5
START VOLT HI 61
START VOLT LO 62
K5B22 (2)
K6A22N (2)
2A1P1
2A1J1
DD
K5A22 (2)

406475-738

61. STARTER WILL NOT CRANK ENGINE



Turn off external dc electrical power (Task 9-3-11).

Set keylock switch (1S14) on.

Set start switch (1S1) to ON.

Check for continuity from battery emergency bus to terminal X1 of start relay 1K1.

Is continuity present?

Check for continuity from 1K1-X1 to 1K1-X2.

Is continuity present?

Replace start relay 1K1 (Task 9-6-42).

Check for continuity across closed START circuit breaker 1CB1.

Is continuity present?

Replace START circuit breaker 1CB1 (Task 9-6-6).

Check for continuity from external power relay terminal 2K3-14 to 1CB1.

Is continuity present?

Check for continuity from 22P5-A to 1CB1.

Is continuity present?

Repair or replace wire K1A20 (2).

Repair or replace wire K1B20 (2).

Check for continuity from 2K3-14 to keylock switch 1S14-2.

Is continuity present?

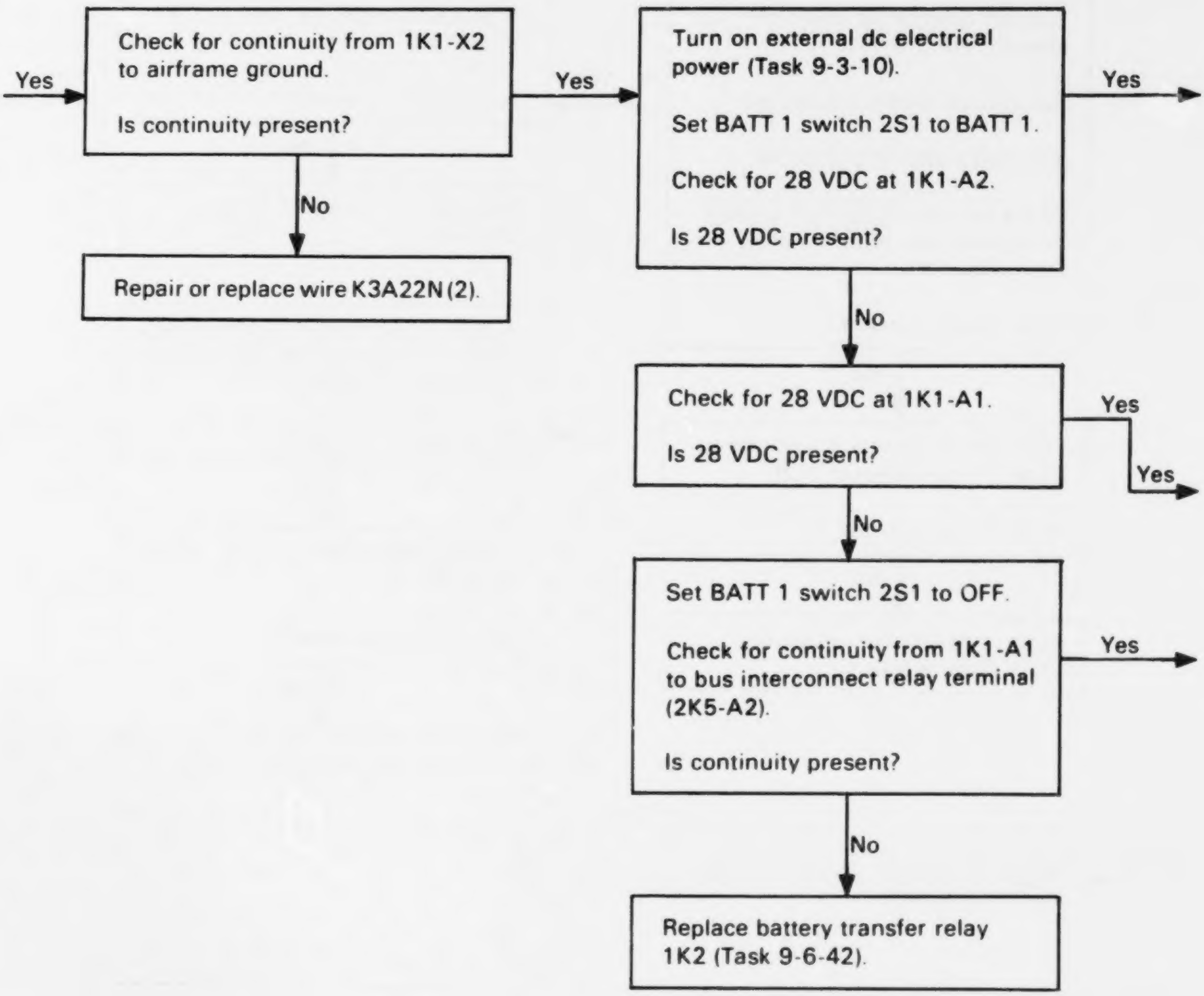
Repair or replace wire K1D20 (2) or K1C20 (2).

Check for continuity from 1S14-C to 1S14-2.

Is continuity present?

Replace keylock switch 1S14 (Task 9-6-51).

61. STARTER WILL NOT CRANK ENGINE (CONT)



Check for continuity from 1K1-X2 to airframe ground.

Is continuity present?

Repair or replace wire K3A22N (2).

Turn on external dc electrical power (Task 9-3-10).

Set BATT 1 switch 2S1 to BATT 1.

Check for 28 VDC at 1K1-A2.

Is 28 VDC present?

Check for 28 VDC at 1K1-A1.

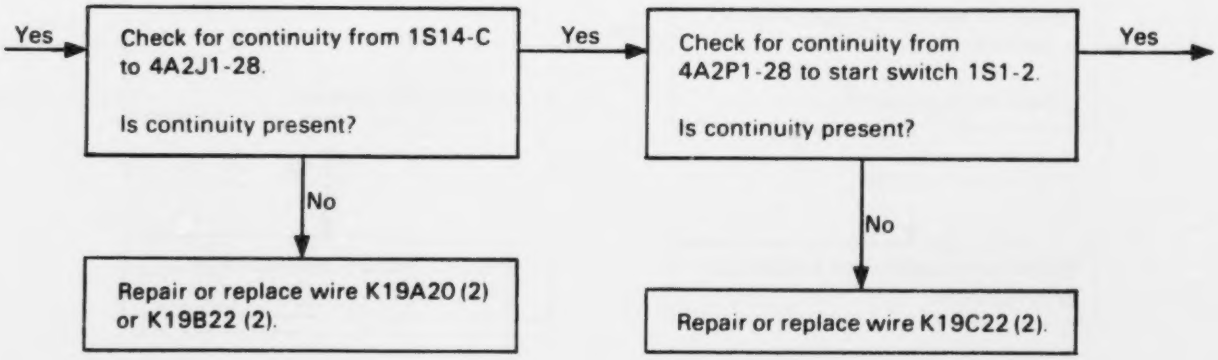
Is 28 VDC present?

Set BATT 1 switch 2S1 to OFF.

Check for continuity from 1K1-A1 to bus interconnect relay terminal (2K5-A2).

Is continuity present?

Replace battery transfer relay 1K2 (Task 9-6-42).



Check for continuity from 1S14-C to 4A2J1-28.

Is continuity present?

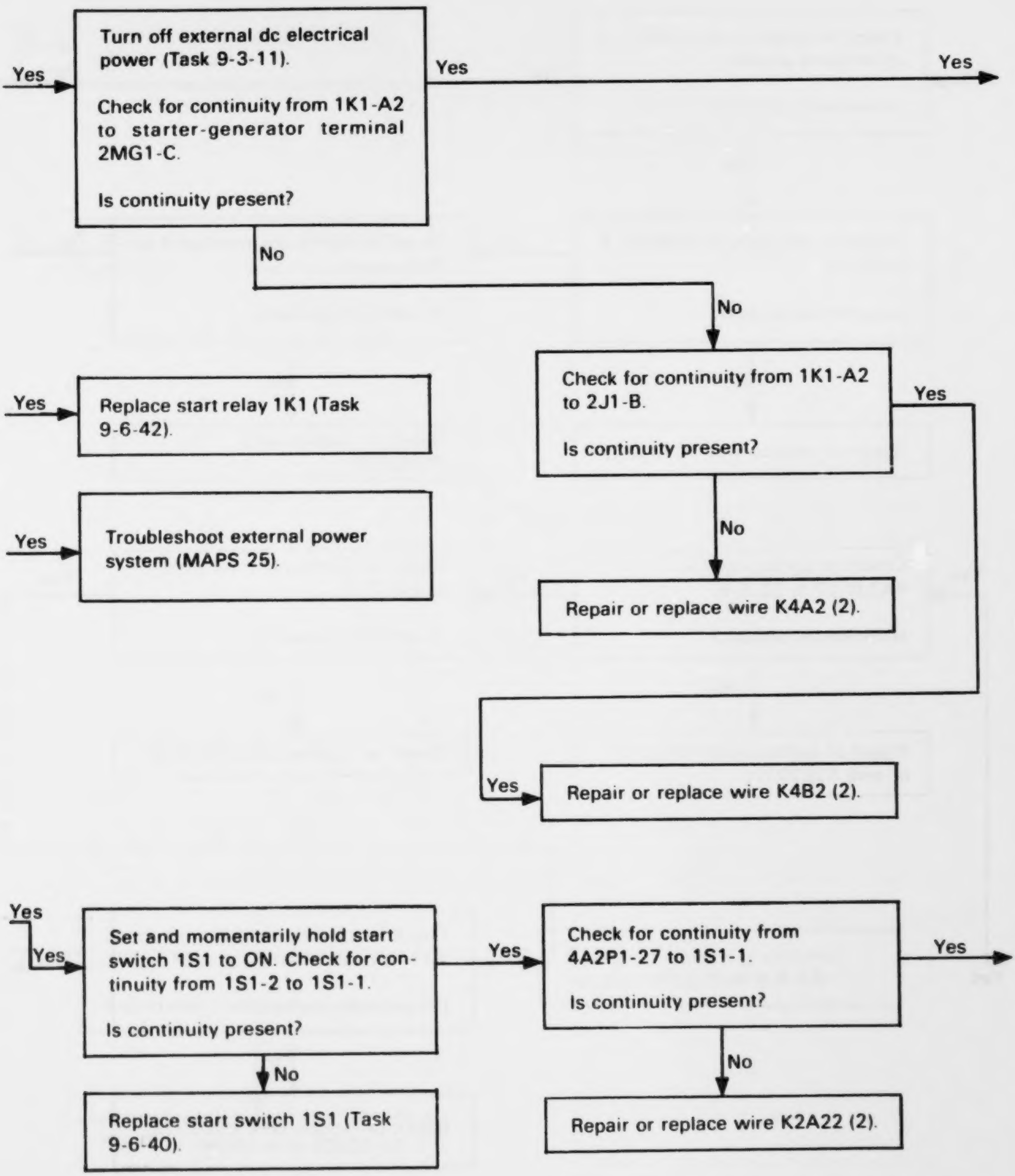
Repair or replace wire K19A20 (2) or K19B22 (2).

Check for continuity from 4A2P1-28 to start switch 1S1-2.

Is continuity present?

Repair or replace wire K19C22 (2).

61. STARTER WILL NOT CRANK ENGINE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 1K1-A2 to starter-generator terminal 2MG1-C.

Is continuity present?

Check for continuity from 1K1-A2 to 2J1-B.

Is continuity present?

Replace start relay 1K1 (Task 9-6-42).

Troubleshoot external power system (MAPS 25).

Repair or replace wire K4A2 (2).

Repair or replace wire K4B2 (2).

Set and momentarily hold start switch 1S1 to ON. Check for continuity from 1S1-2 to 1S1-1.

Is continuity present?

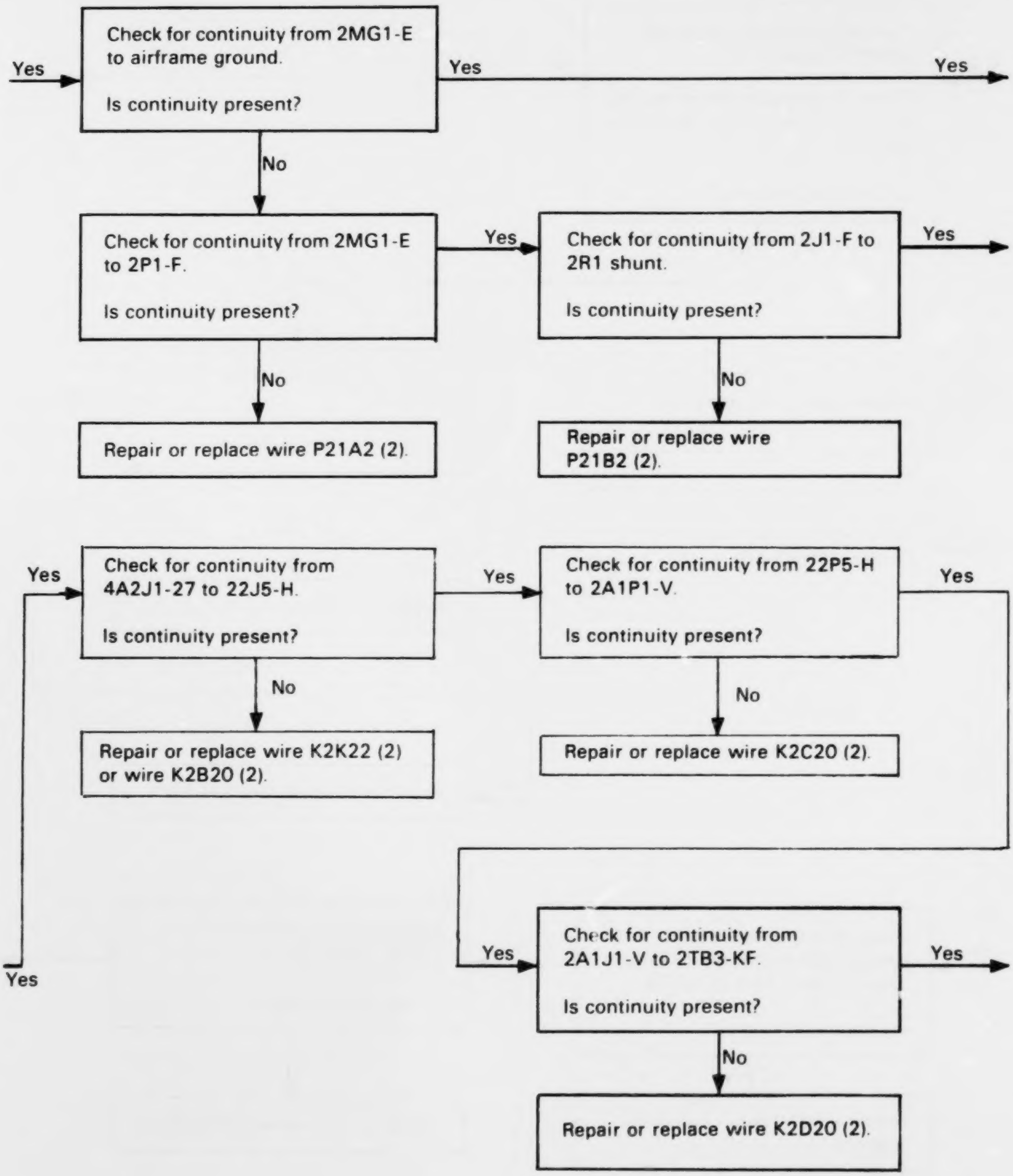
Check for continuity from 4A2P1-27 to 1S1-1.

Is continuity present?

Replace start switch 1S1 (Task 9-6-40).

Repair or replace wire K2A22 (2).

61. STARTER WILL NOT CRANK ENGINE (CONT)


Yes
Check for continuity from 2MG1-E to airframe ground.
Is continuity present?
Yes
Yes
No
Check for continuity from 2MG1-E to 2P1-F.
Is continuity present?
Yes
Check for continuity from 2J1-F to 2R1 shunt.
Is continuity present?
Yes
No
No
Repair or replace wire P21A2 (2).
Repair or replace wire P21B2 (2).
Yes
Check for continuity from 4A2J1-27 to 22J5-H.
Is continuity present?
Yes
Check for continuity from 22P5-H to 2A1P1-V.
Is continuity present?
Yes
No
No
Repair or replace wire K2K22 (2) or wire K2B20 (2).
Repair or replace wire K2C20 (2).
Yes
Yes
Check for continuity from 2A1J1-V to 2TB3-KF.
Is continuity present?
Yes
No
Repair or replace wire K2D20 (2).

61. STARTER WILL NOT CRANK ENGINE (CONT)

Yes

Replace starter-generator 2MG1 (Task 9-3-15).

Yes

Repair or replace wire P22A2N (2).

Yes

Check for continuity from 2TB3-KM to start relay 1K1-X1.

Is continuity present?

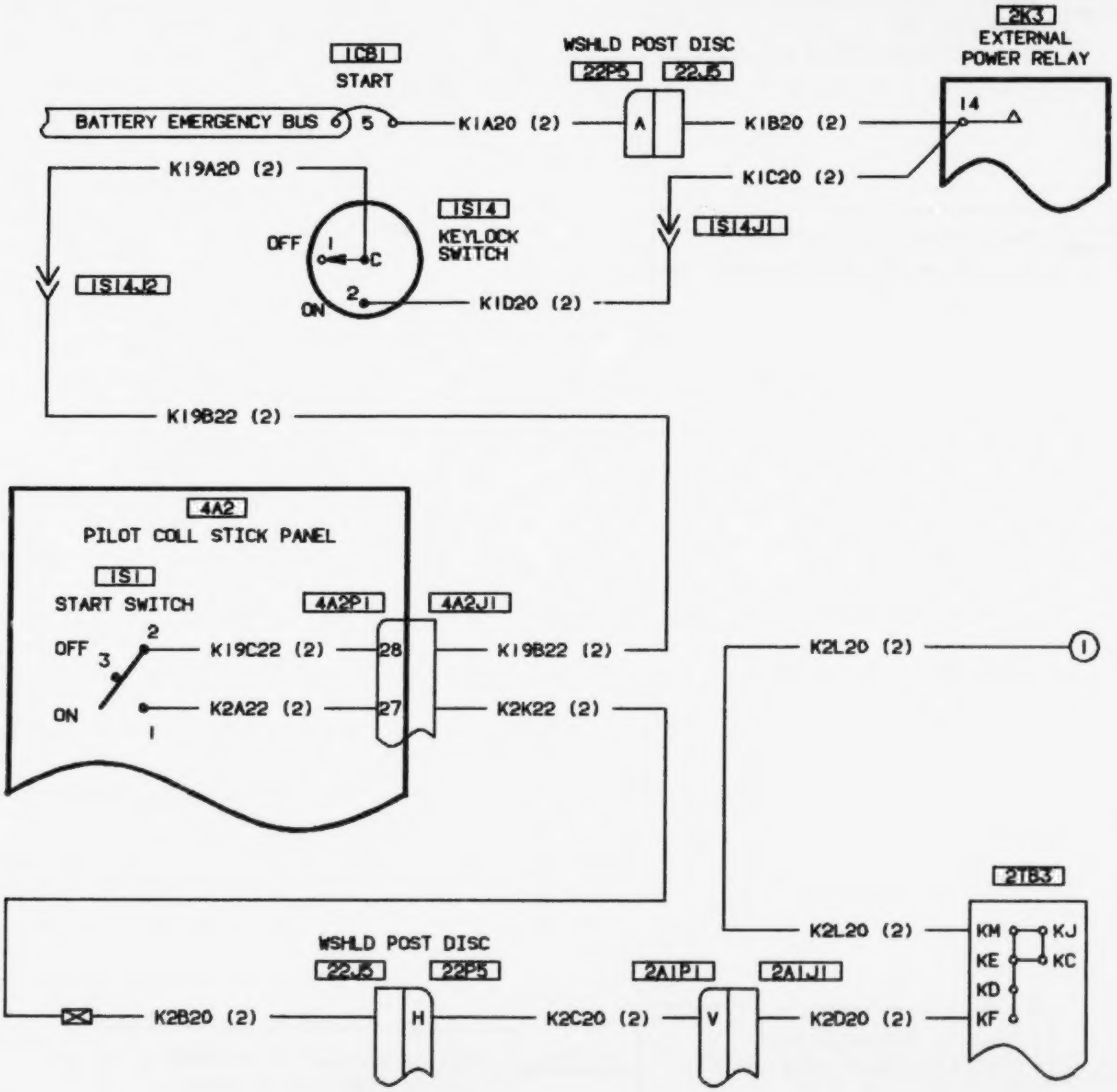
Yes

Replace module K of terminal junction 2TB3 (Task 9-6-47).

No

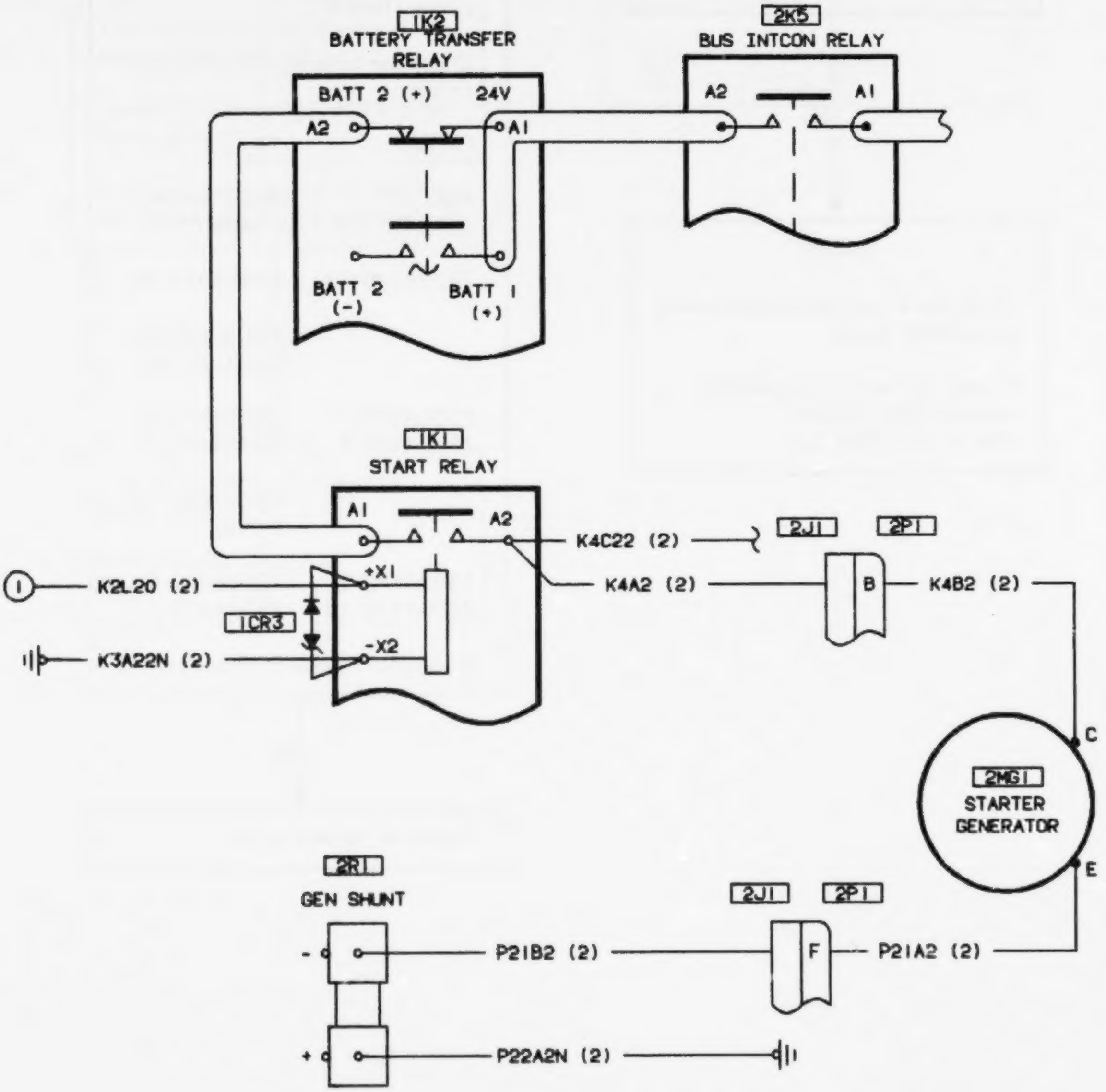
Repair or replace wire K2L20 (2).

61. STARTER WILL NOT CRANK ENGINE (CONT)


1CB1
START
BATTERY EMERGENCY BUS
6
5
K1A20 (2)
WSHLD POST DISC
22P5
22J5
A
K1B20 (2)
2K3
EXTERNAL
POWER RELAY
14
K19A20 (2)
K1C20 (2)
1S14
KEYLOCK
SWITCH
OFF
1
C
2
ON
K1D20 (2)
1S14J1
1S14J2
K19B22 (2)
4A2
PILOT COLL STICK PANEL
1S1
START SWITCH
4A2P1
4A2J1
OFF
3
2
K19C22 (2)
28
K19B22 (2)
ON
1
K2A22 (2)
27
K2K22 (2)
K2L20 (2)
1
WSHLD POST DISC
22J5
22P5
K2B20 (2)
H
K2C20 (2)
2A1P1
V
2A1J1
K2D20 (2)
2TB3
K2L20 (2)
KM
KJ
KE
KC
KD
KF

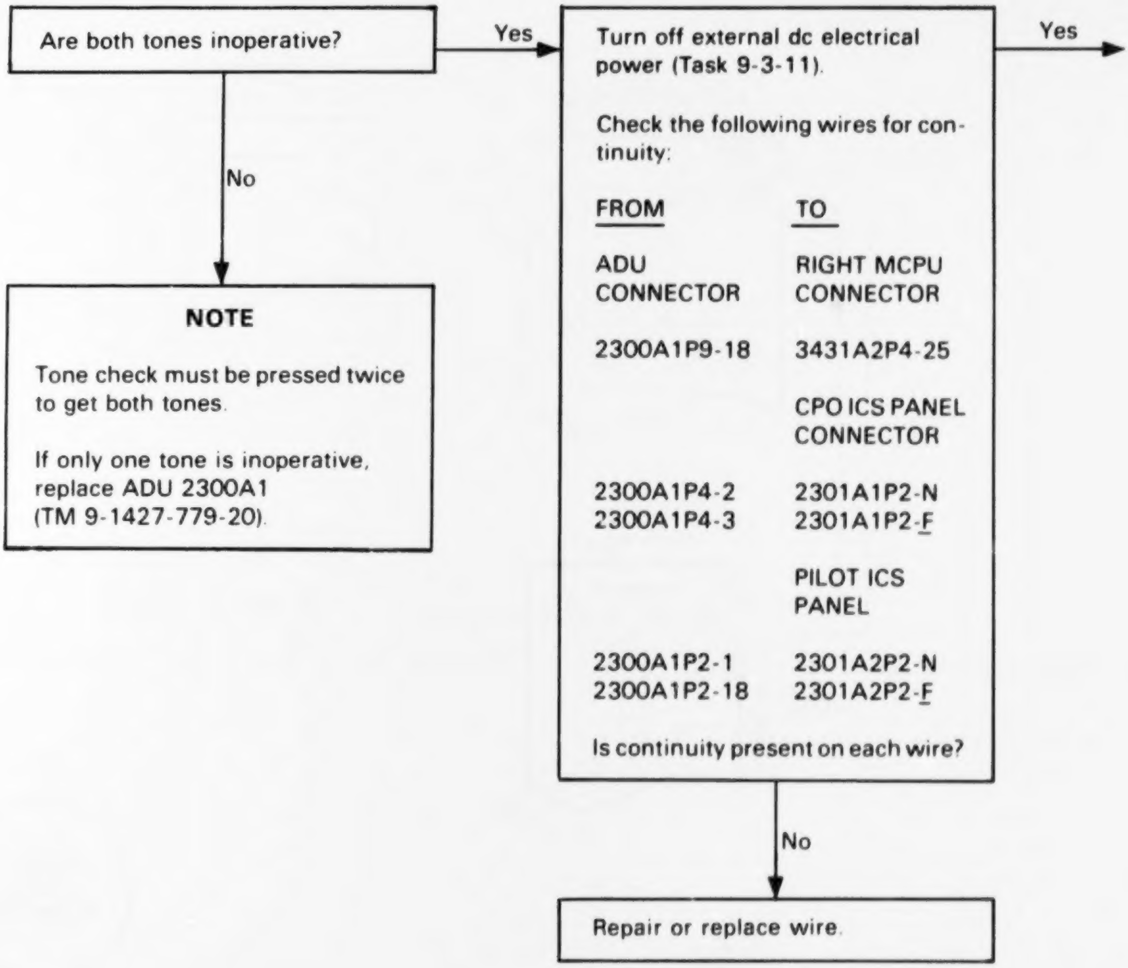
406475-76-1A

61. STARTER WILL NOT CRANK ENGINE (CONT)


1K2
BATTERY TRANSFER RELAY
BATT 2 (+)
24V
A2
A1
BATT 2 (-)
BATT 1 (+)
2K5
BUS INTCON RELAY
A2
A1
1K1
START RELAY
A1
A2
+X1
-X2
1CR3
1
K2L20 (2)
K3A22N (2)
K4C22 (2)
K4A2 (2)
2J1
2P1
B
K4B2 (2)
C
2MG1
STARTER GENERATOR
E
2R1
GEN SHUNT
-
+
P21B2 (2)
P22A2N (2)
2J1
2P1
F
P21A2 (2)

406475-76-2A

62. TONE CHECK TEST ON MFD FAILS (MCPU L CIRCUIT BREAKER OPEN)



Are both tones inoperative?

NOTE

Tone check must be pressed twice to get both tones.

If only one tone is inoperative, replace ADU 2300A1 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

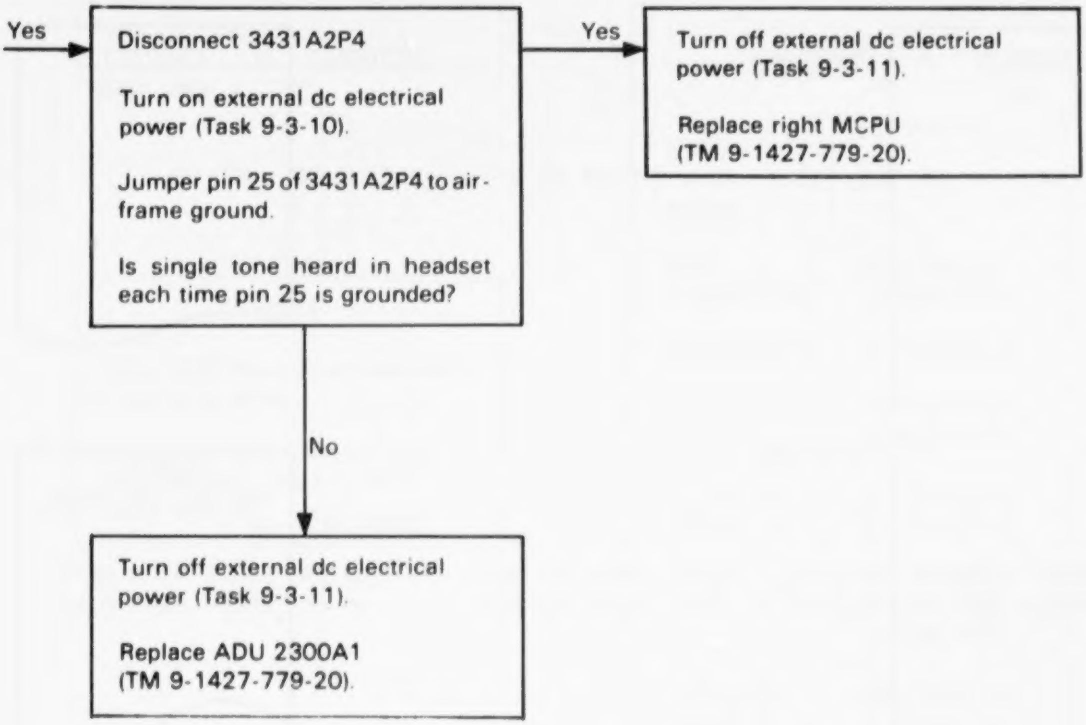
Check the following wires for continuity:

FROM	TO
ADU CONNECTOR	RIGHT MCPU CONNECTOR
2300A1P9-18	3431A2P4-25
	CPO ICS PANEL CONNECTOR
2300A1P4-2	2301A1P2-N
2300A1P4-3	2301A1P2-F
	PILOT ICS PANEL
2300A1P2-1	2301A2P2-N
2300A1P2-18	2301A2P2-F

Is continuity present on each wire?

Repair or replace wire.

62. TONE CHECK TEST ON MFD FAILS (MCPU L CIRCUIT BREAKER OPEN) (CONT)



Disconnect 3431A2P4

Turn on external dc electrical power (Task 9-3-10).

Jumper pin 25 of 3431A2P4 to airframe ground.

Is single tone heard in headset each time pin 25 is grounded?

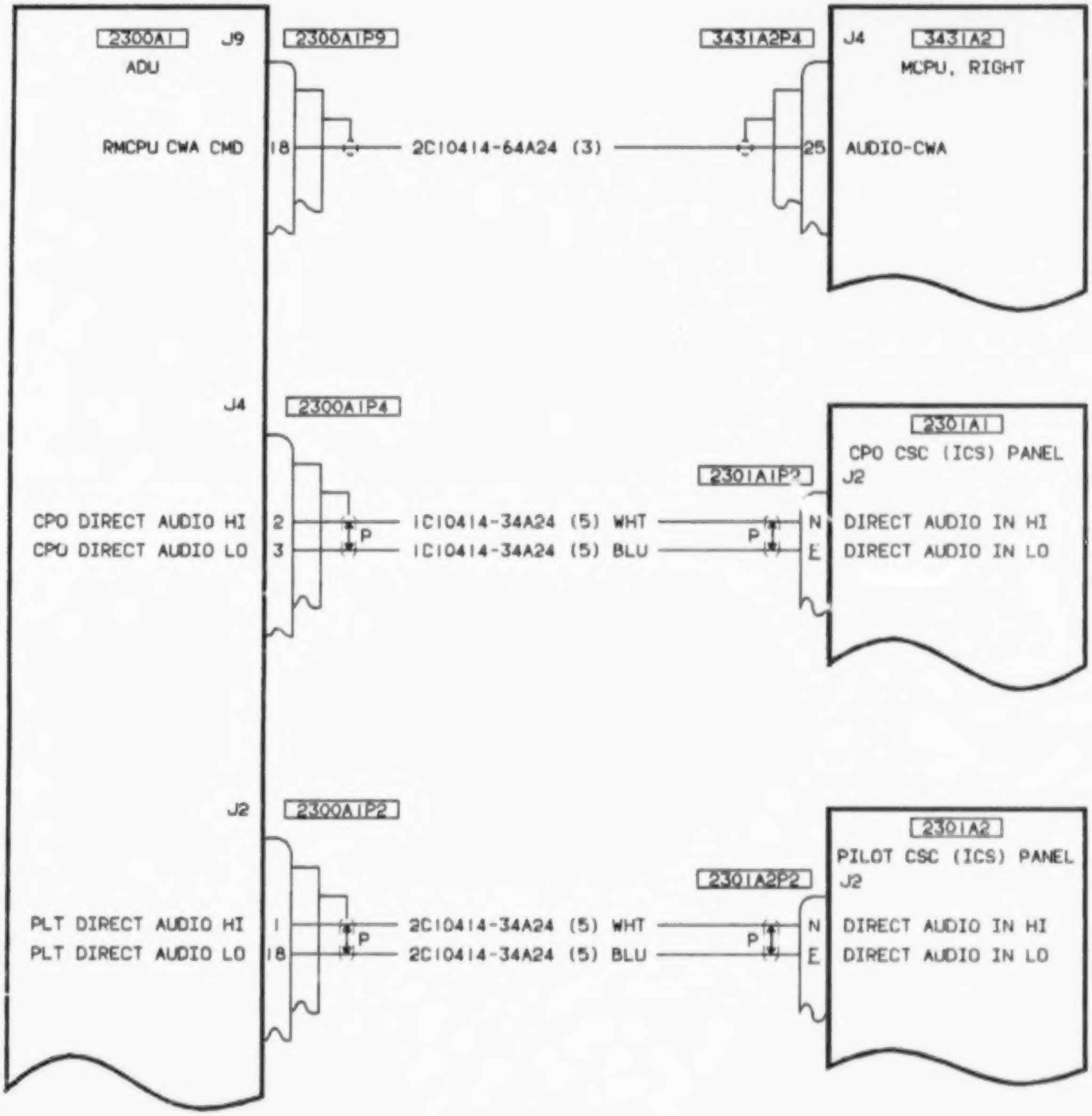
Turn off external dc electrical power (Task 9-3-11).

Replace right MCPU (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

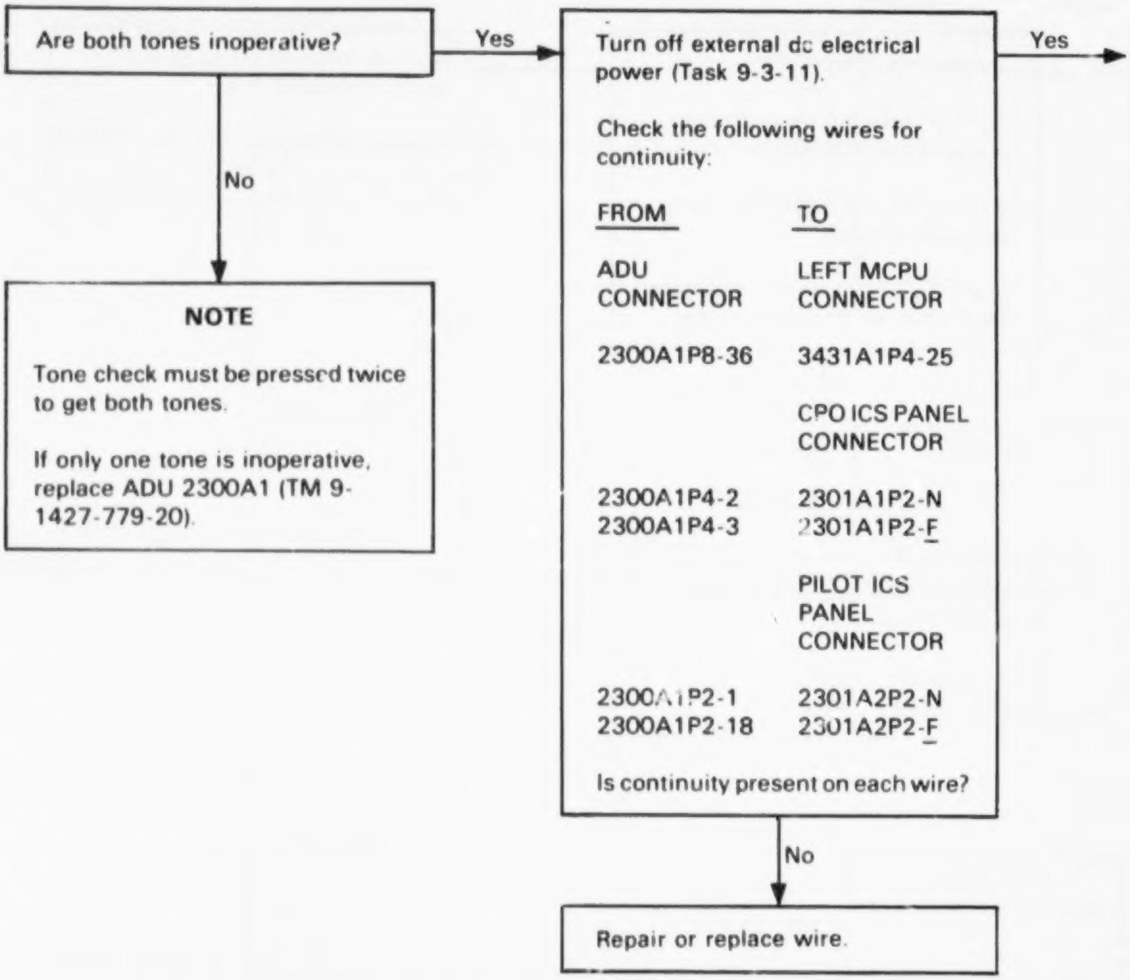
Replace ADU 2300A1 (TM 9-1427-779-20).

62. TONE CHECK TEST ON MFD FAILS (MCPU L CIRCUIT BREAKER OPEN) (CONT)


2300A1
ADU
J9
2300A1P9
RMCPU CWA CMD
18
2C10414-64A24 (3)
3431A2P4
J4
3431A2
MCPU, RIGHT
25
AUDIO-CWA
J4
2300A1P4
CPO DIRECT AUDIO HI
CPO DIRECT AUDIO LO
2
3
1C10414-34A24 (5) WHT
1C10414-34A24 (5) BLU
P
2301A1
CPO CSC (ICS) PANEL
2301A1P2
J2
N
E
DIRECT AUDIO IN HI
DIRECT AUDIO IN LO
J2
2300A1P2
PLT DIRECT AUDIO HI
PLT DIRECT AUDIO LO
1
18
2C10414-34A24 (5) WHT
2C10414-34A24 (5) BLU
2301A2
PILOT CSC (ICS) PANEL
2301A2P2
J2
DIRECT AUDIO IN HI
DIRECT AUDIO IN LO

406477-15A

63. TONE CHECK TEST ON MFD FAILS (MCPU R CIRCUIT BREAKER OPEN)



Are both tones inoperative?

NOTE

Tone check must be pressed twice to get both tones.

If only one tone is inoperative, replace ADU 2300A1 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

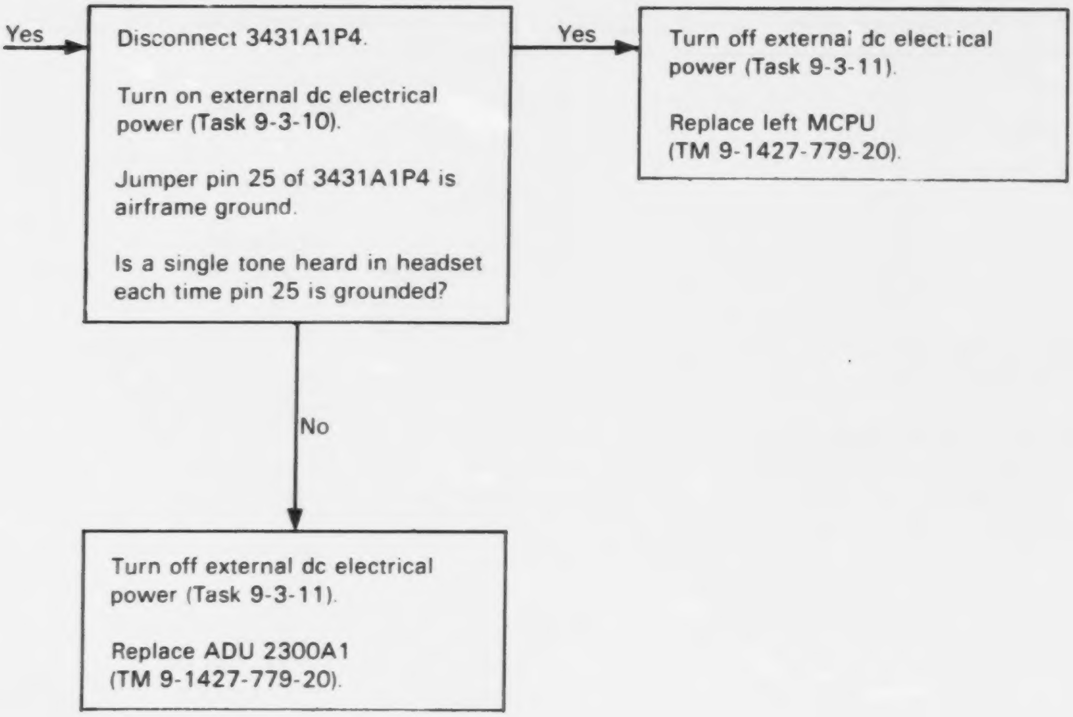
Check the following wires for continuity:

FROM	TO
ADU CONNECTOR	LEFT MCPU CONNECTOR
2300A1P8-36	3431A1P4-25
	CPO ICS PANEL CONNECTOR
2300A1P4-2	2301A1P2-N
2300A1P4-3	2301A1P2-F
	PILOT ICS PANEL CONNECTOR
2300A1P2-1	2301A2P2-N
2300A1P2-18	2301A2P2-F

Is continuity present on each wire?

Repair or replace wire.

63. TONE CHECK TEST ON MFD FAILS (MCPU R CIRCUIT BREAKER OPEN) (CONT)



Disconnect 3431A1P4.

Turn on external dc electrical power (Task 9-3-10).

Jumper pin 25 of 3431A1P4 is airframe ground.

Is a single tone heard in headset each time pin 25 is grounded?

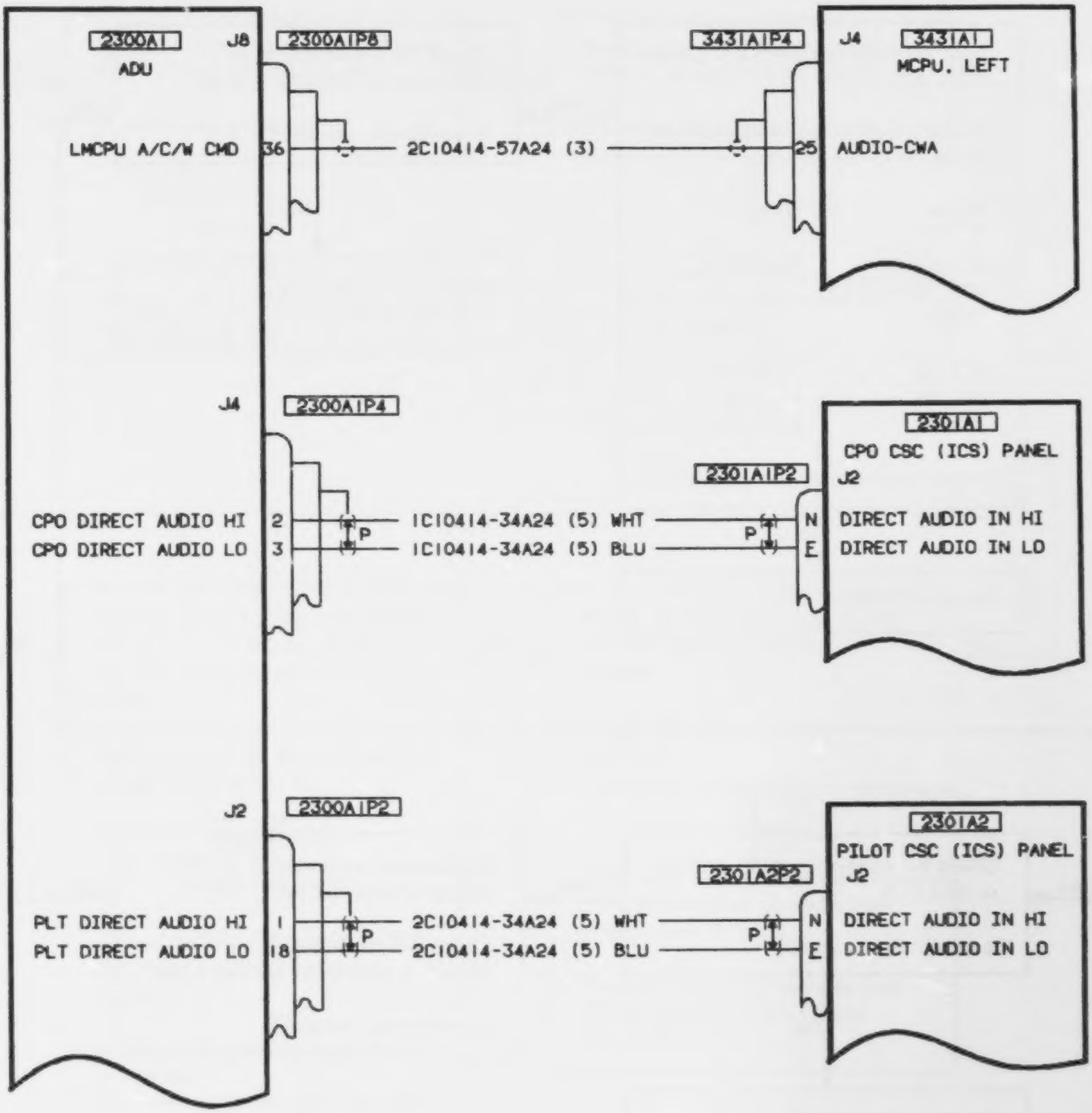
Turn off external dc electrical power (Task 9-3-11).

Replace left MCPU (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

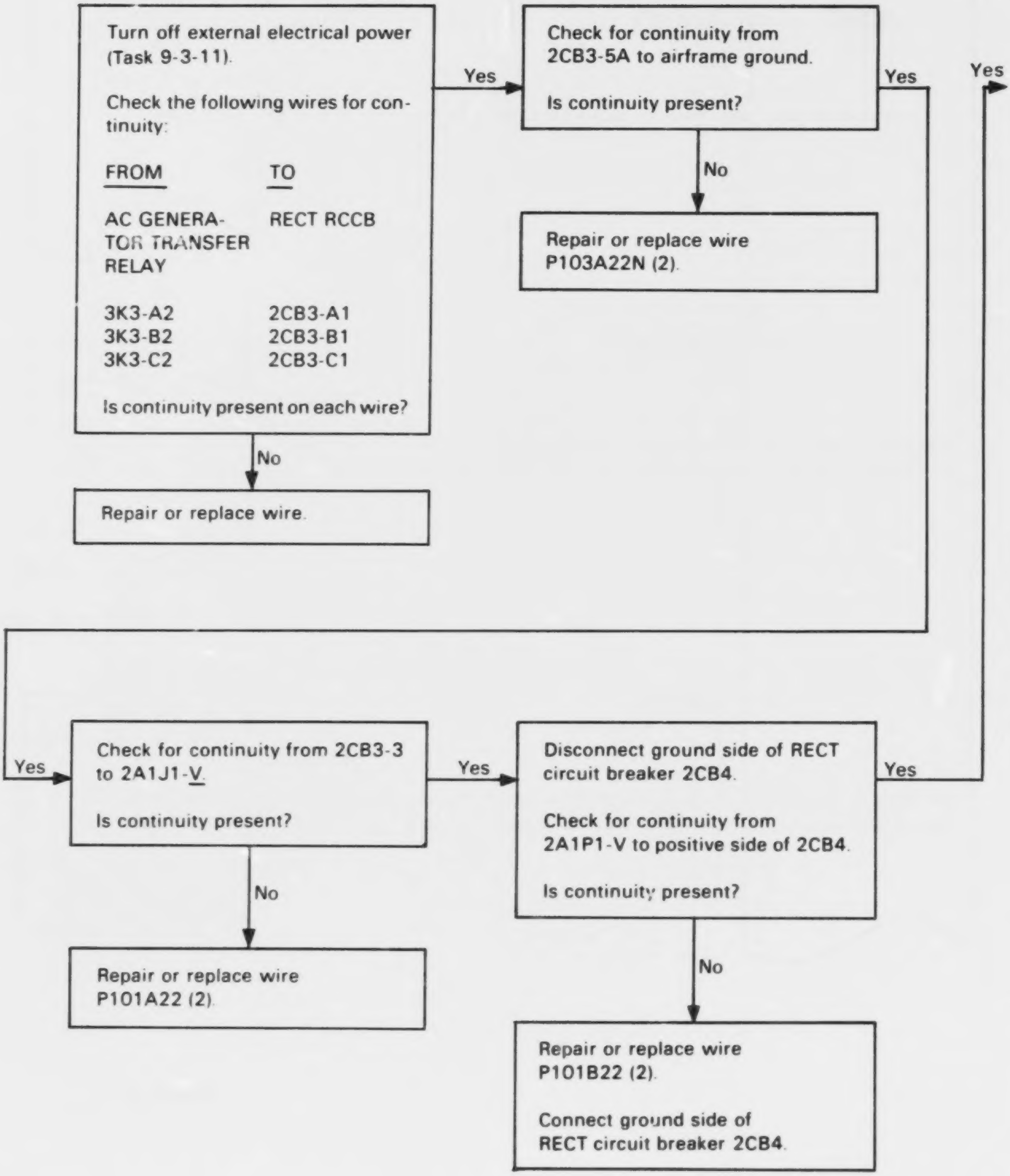
Replace ADU 2300A1 (TM 9-1427-779-20).

63. TONE CHECK TEST ON MFD FAILS (MCPU R CIRCUIT BREAKER OPEN) (CONT)


2300A1
ADU
J8
2300A1P8
LMCPU A/C/W CMD
36
2C10414-57A24 (3)
25
3431A1P4
J4
3431A1
MCPU, LEFT
AUDIO-CWA
J4
2300A1P4
CPO DIRECT AUDIO HI
CPO DIRECT AUDIO LO
2
3
P
1C10414-34A24 (5) WHT
1C10414-34A24 (5) BLU
2301A1
CPO CSC (ICS) PANEL
2301A1P2
J2
N
E
DIRECT AUDIO IN HI
DIRECT AUDIO IN LO
J2
2300A1P2
PLT DIRECT AUDIO HI
PLT DIRECT AUDIO LO
1
18
2C10414-34A24 (5) WHT
2C10414-34A24 (5) BLU
2301A2
PILOT CSC (ICS) PANEL
2301A2P2
J2
N
E
DIRECT AUDIO IN HI
DIRECT AUDIO IN LO

406477-16A

64. TRANSFORMER-RECTIFIER UNIT DOES NOT COME ON



Turn off external electrical power (Task 9-3-11).

Check the following wires for continuity:

FROM	TO
AC GENERATOR TRANSFER RELAY	RECT RCCB
3K3-A2	2CB3-A1
3K3-B2	2CB3-B1
3K3-C2	2CB3-C1

Is continuity present on each wire?

Repair or replace wire.

Check for continuity from 2CB3-5A to airframe ground.

Is continuity present?

Repair or replace wire P103A22N (2).

Check for continuity from 2CB3-3 to 2A1J1-V.

Is continuity present?

Repair or replace wire P101A22 (2).

Disconnect ground side of RECT circuit breaker 2CB4.

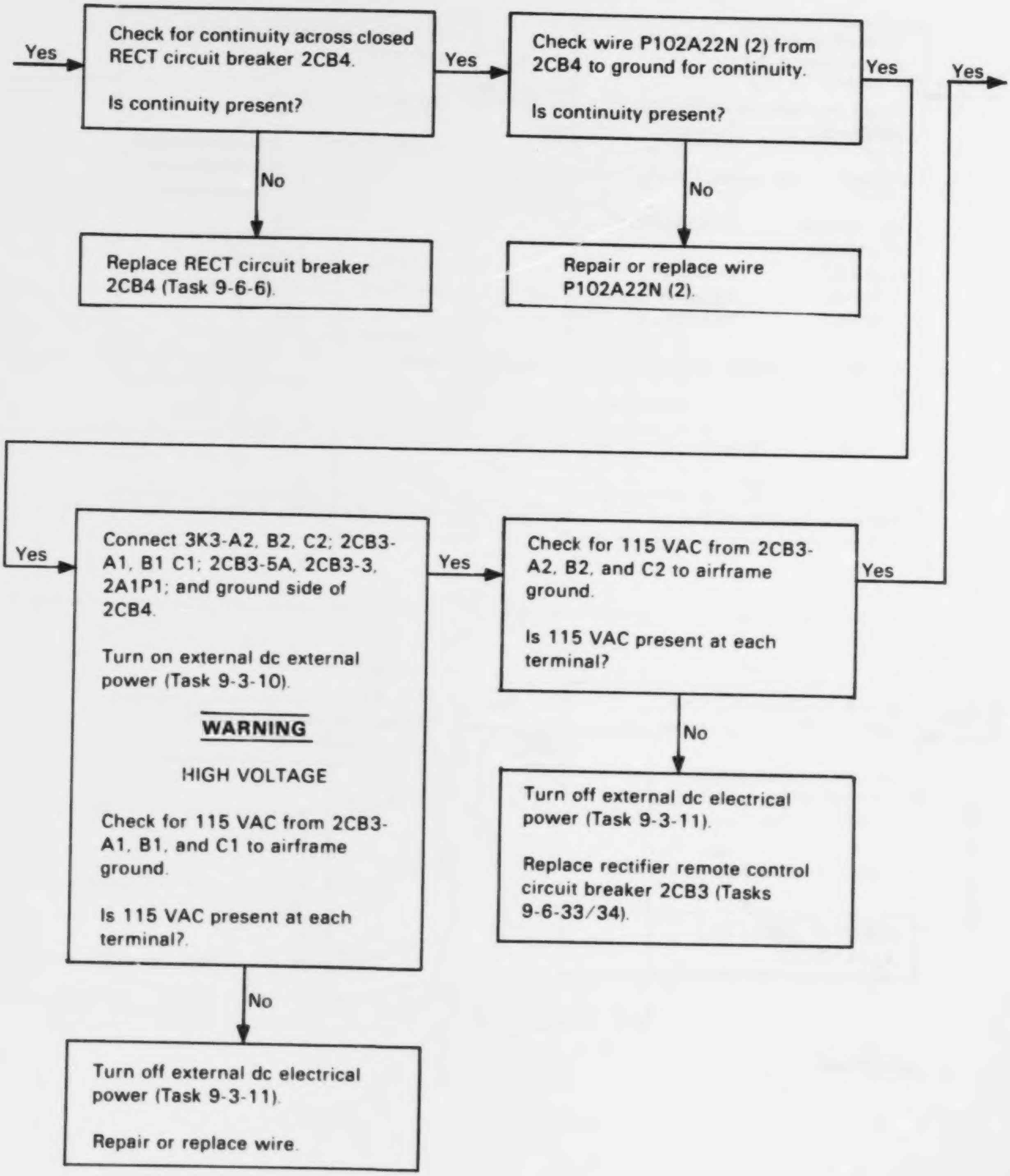
Check for continuity from 2A1P1-V to positive side of 2CB4.

Is continuity present?

Repair or replace wire P101B22 (2).

Connect ground side of RECT circuit breaker 2CB4.

64. TRANSFORMER-RECTIFIER UNIT DOES NOT COME ON (CONT)



Check for continuity across closed RECT circuit breaker 2CB4.

Is continuity present?

Replace RECT circuit breaker 2CB4 (Task 9-6-6).

Check wire P102A22N (2) from 2CB4 to ground for continuity.

Is continuity present?

Repair or replace wire P102A22N (2).

Connect 3K3-A2, B2, C2; 2CB3-A1, B1 C1; 2CB3-5A, 2CB3-3, 2A1P1; and ground side of 2CB4.

Turn on external dc external power (Task 9-3-10).

WARNING

HIGH VOLTAGE

Check for 115 VAC from 2CB3-A1, B1, and C1 to airframe ground.

Is 115 VAC present at each terminal?.

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire.

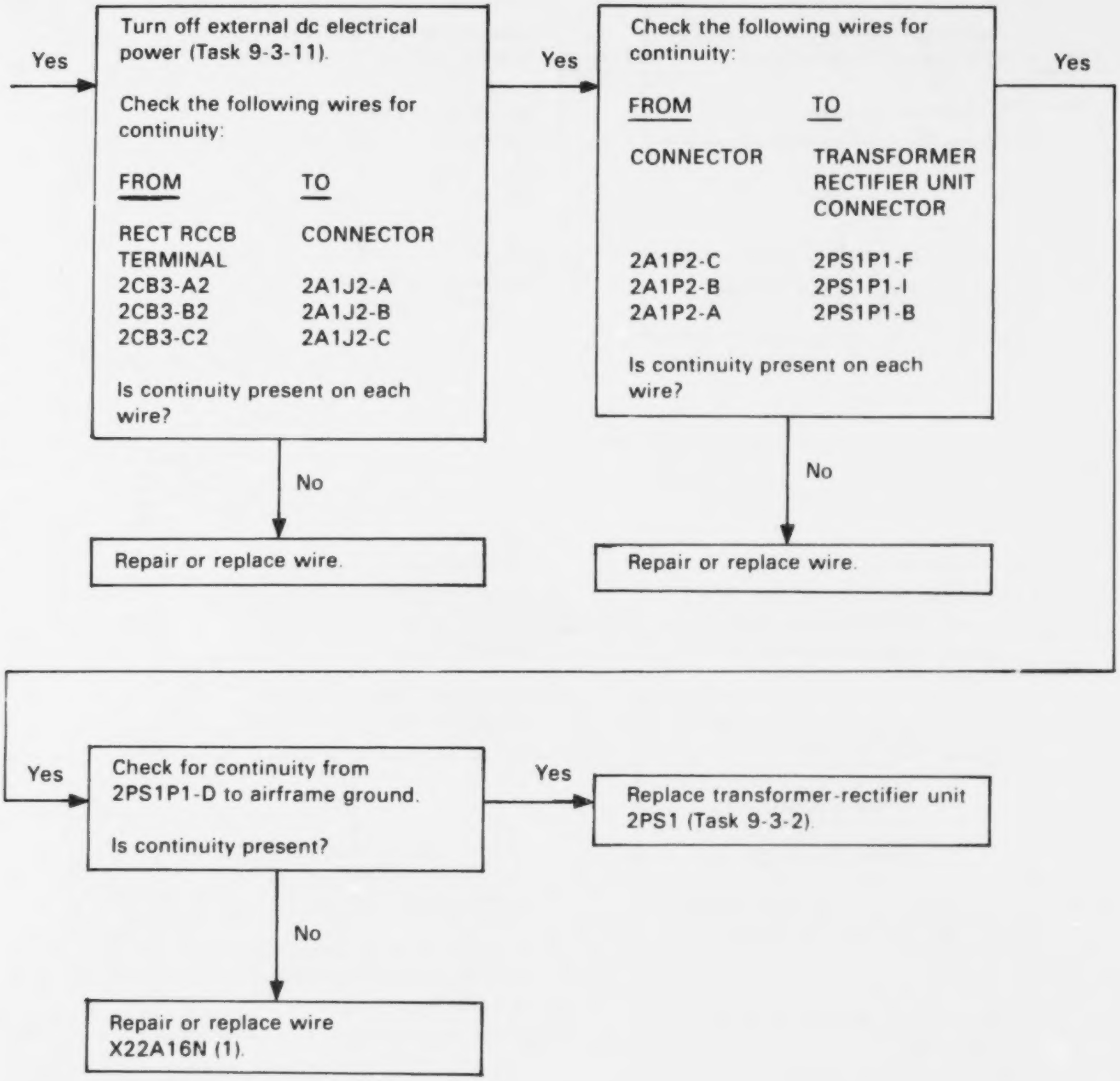
Check for 115 VAC from 2CB3-A2, B2, and C2 to airframe ground.

Is 115 VAC present at each terminal?

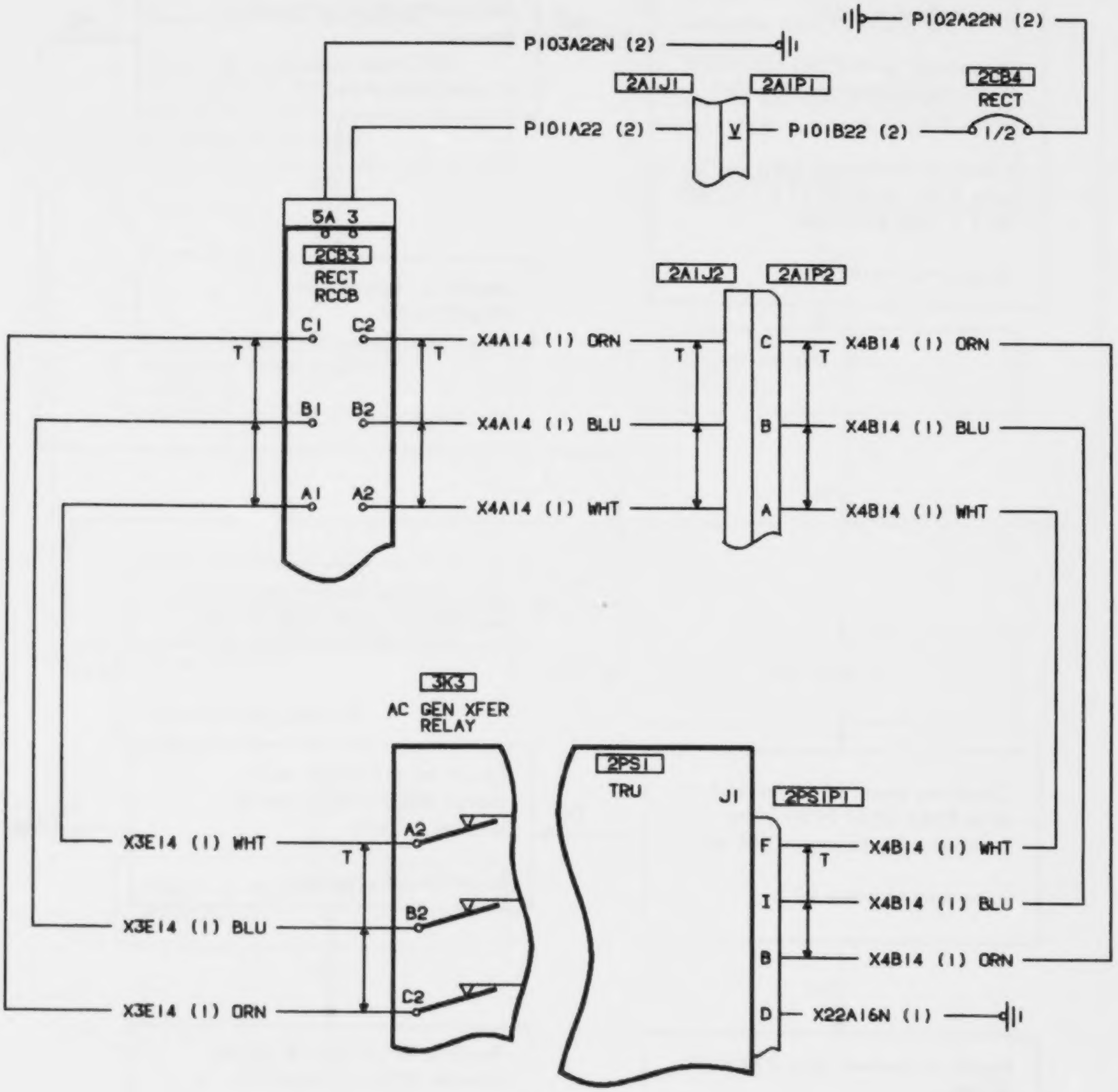
Turn off external dc electrical power (Task 9-3-11).

Replace rectifier remote control circuit breaker 2CB3 (Tasks 9-6-33/34).

64. TRANSFORMER-RECTIFIER UNIT DOES NOT COME ON (CONT)

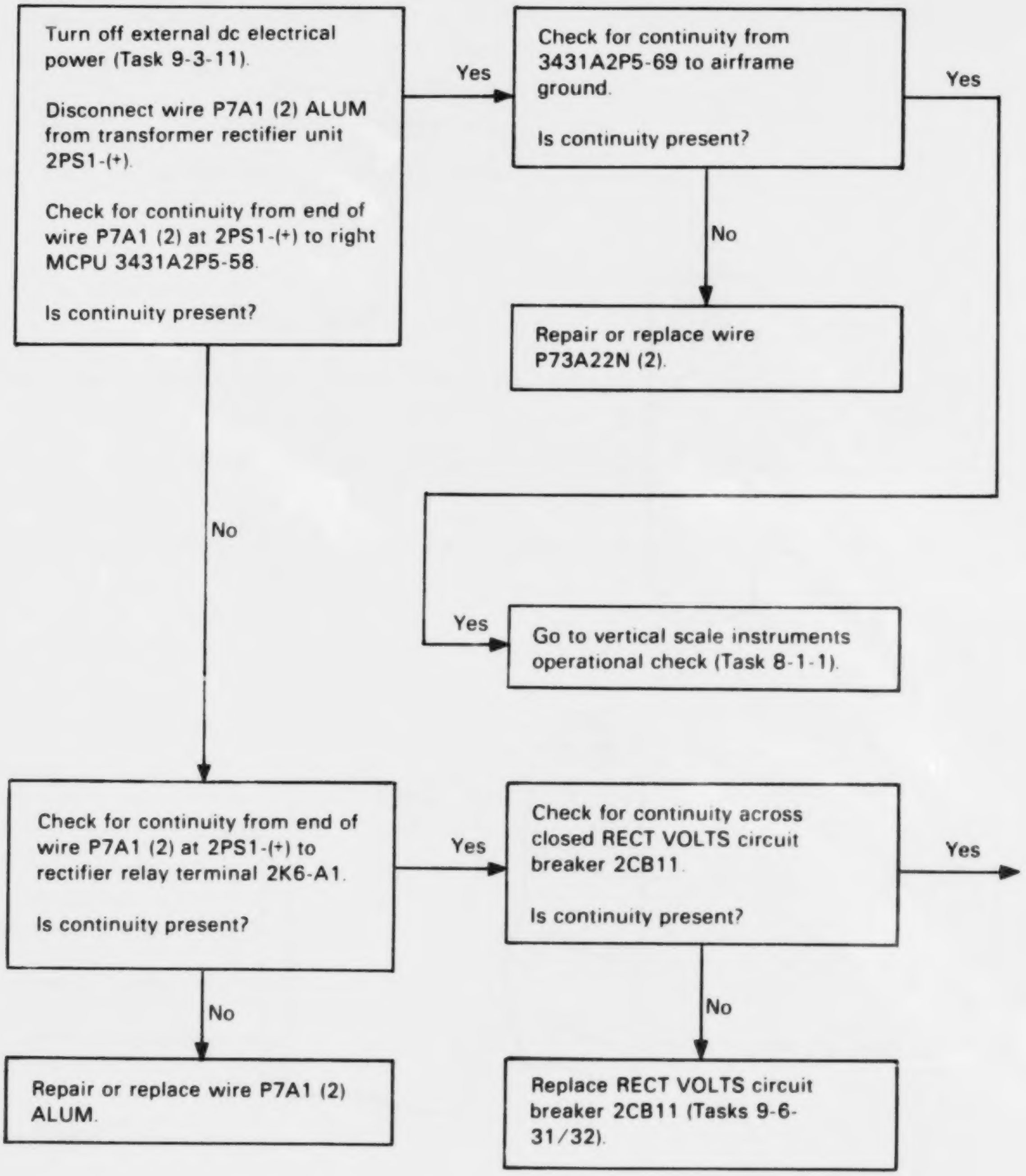

Yes
Turn off external dc electrical power (Task 9-3-11).
Check the following wires for continuity:
FROM TO
RECT RCCB TERMINAL CONNECTOR
2CB3-A2 2A1J2-A
2CB3-B2 2A1J2-B
2CB3-C2 2A1J2-C
Is continuity present on each wire?
No
Repair or replace wire.
Yes
Check the following wires for continuity:
FROM TO
CONNECTOR TRANSFORMER RECTIFIER UNIT CONNECTOR
2A1P2-C 2PS1P1-F
2A1P2-B 2PS1P1-I
2A1P2-A 2PS1P1-B
Is continuity present on each wire?
No
Repair or replace wire.
Yes
Yes
Check for continuity from 2PS1P1-D to airframe ground.
Is continuity present?
Yes
Replace transformer-rectifier unit 2PS1 (Task 9-3-2).
No
Repair or replace wire X22A16N (1).

64. TRANSFORMER-RECTIFIER UNIT DOES NOT COME ON (CONT)


P102A22N (2)
P103A22N (2)
2A1J1
2A1P1
2CB4
RECT
P101A22 (2)
V
P101B22 (2)
1/2
5A 3
2CB3
RECT
RCCB
2A1J2
2A1P2
C1
C2
T
X4A14 (1) ORN
C
X4B14 (1) ORN
B1
B2
X4A14 (1) BLU
B
X4B14 (1) BLU
A1
A2
X4A14 (1) WHT
A
X4B14 (1) WHT
3K3
AC GEN XFER
RELAY
2PS1
TRU
J1
2PS1P1
X3E14 (1) WHT
A2
F
X4B14 (1) WHT
X3E14 (1) BLU
B2
I
X4B14 (1) BLU
B
X4B14 (1) ORN
X3E14 (1) ORN
C2
D
X22A16N (1)

406475-41A

65. TRANSFORMER-RECTIFIER UNIT IS ON BUT NO 24-30 VDC INDICATION ABOVE RECT V ON MPD



Turn off external dc electrical power (Task 9-3-11).

Disconnect wire P7A1 (2) ALUM from transformer rectifier unit 2PS1-(+).

Check for continuity from end of wire P7A1 (2) at 2PS1-(+) to right MCPU 3431A2P5-58.

Is continuity present?

Check for continuity from 3431A2P5-69 to airframe ground.

Is continuity present?

Repair or replace wire P73A22N (2).

Go to vertical scale instruments operational check (Task 8-1-1).

Check for continuity from end of wire P7A1 (2) at 2PS1-(+) to rectifier relay terminal 2K6-A1.

Is continuity present?

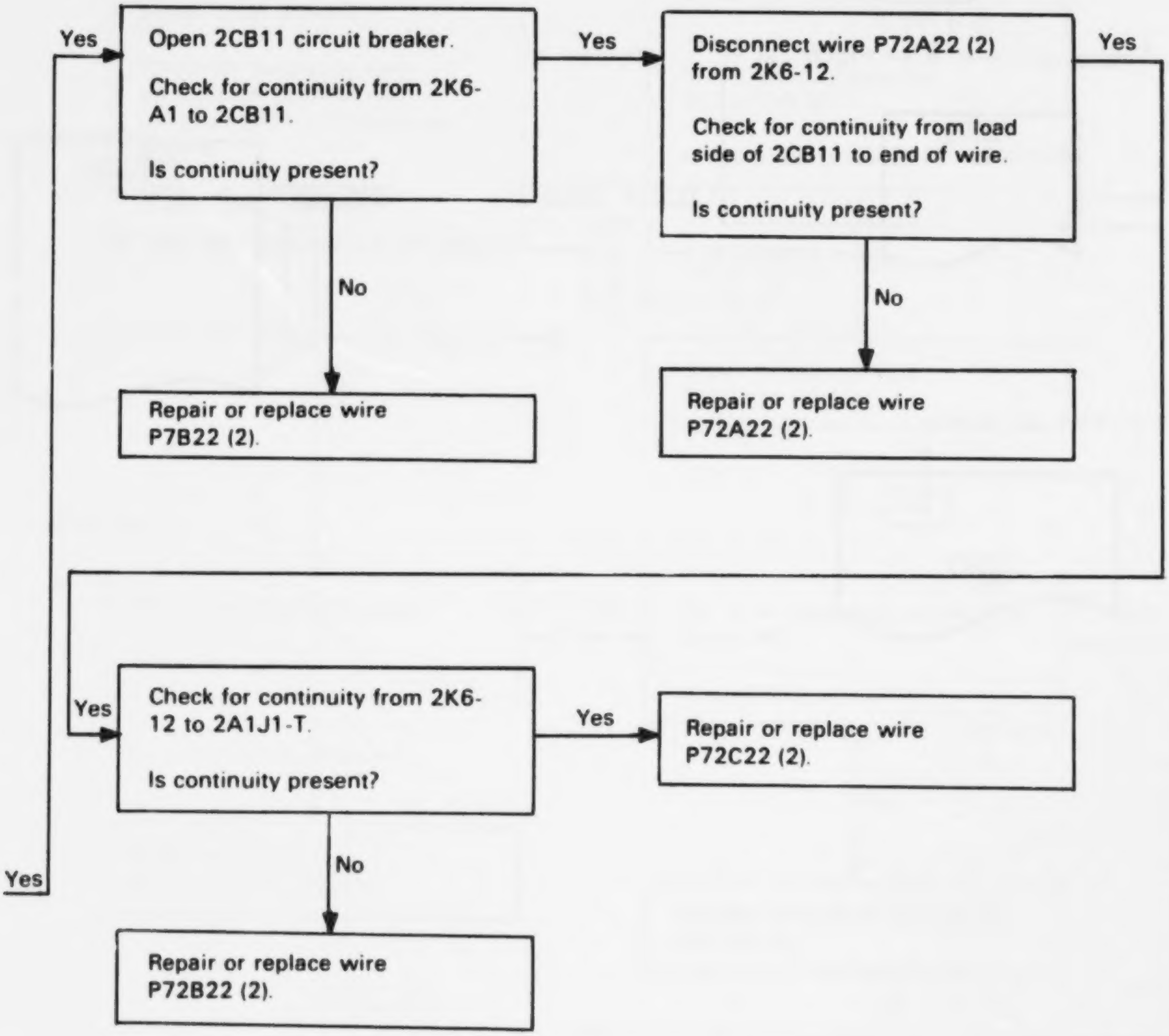
Check for continuity across closed RECT VOLTS circuit breaker 2CB11.

Is continuity present?

Repair or replace wire P7A1 (2) ALUM.

Replace RECT VOLTS circuit breaker 2CB11 (Tasks 9-6-31/32).

65. TRANSFORMER-RECTIFIER UNIT IS ON BUT NO 24–30 VDC INDICATION ABOVE RECT V ON MPD



Open 2CB11 circuit breaker.

Check for continuity from 2K6-A1 to 2CB11.

Is continuity present?

Repair or replace wire P7B22 (2).

Disconnect wire P72A22 (2) from 2K6-12.

Check for continuity from load side of 2CB11 to end of wire.

Is continuity present?

Repair or replace wire P72A22 (2).

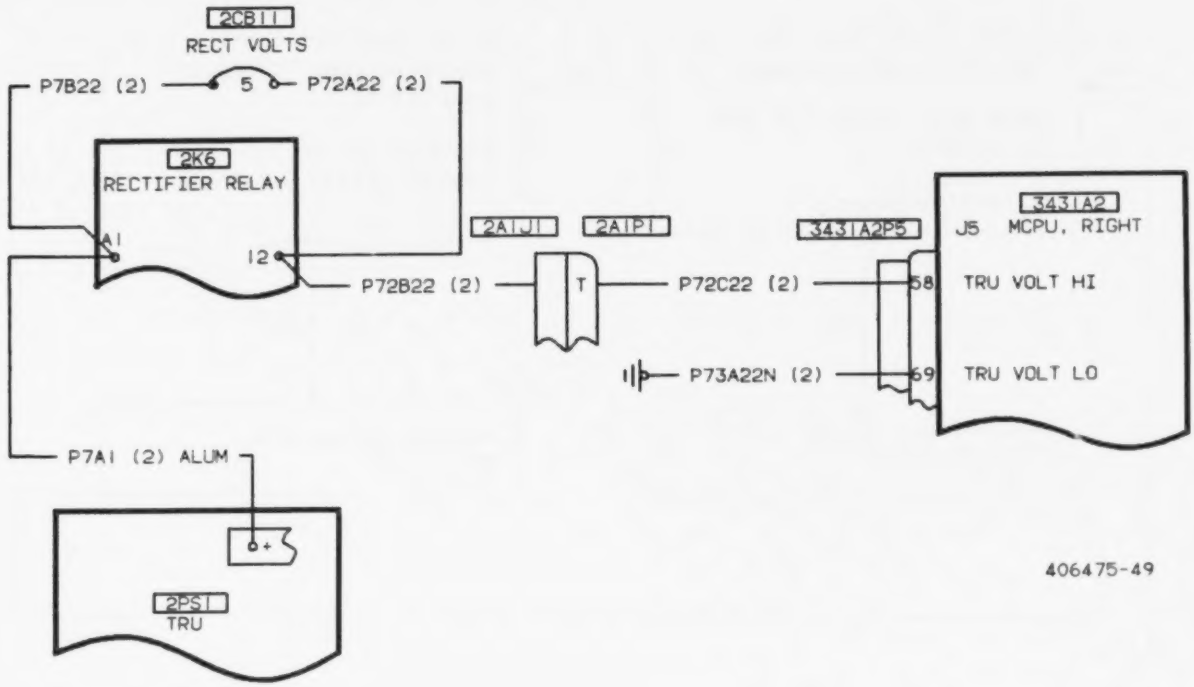
Check for continuity from 2K6-12 to 2A1J1-T.

Is continuity present?

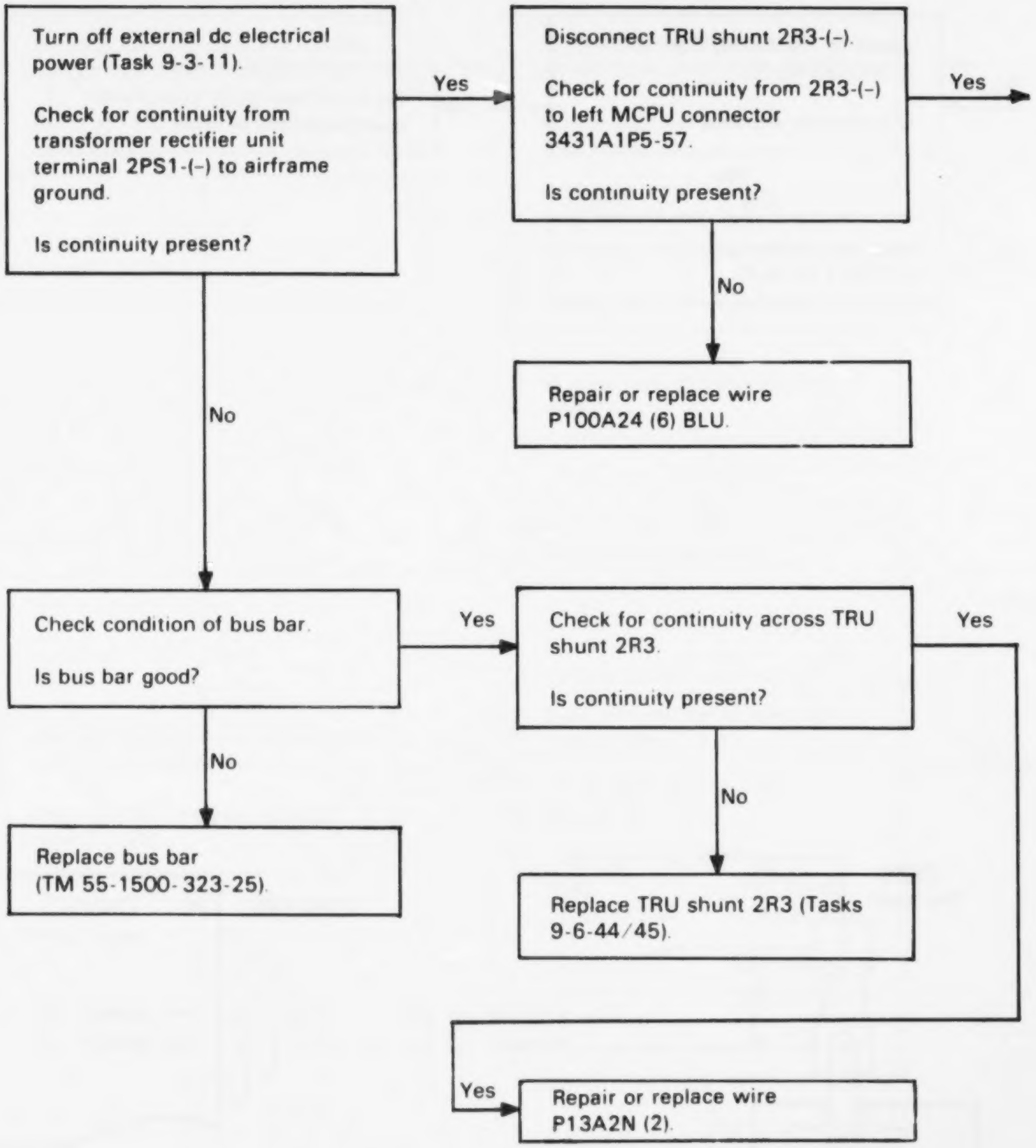
Repair or replace wire P72C22 (2).

Repair or replace wire P72B22 (2).

65. TRANSFORMER-RECTIFIER UNIT IS ON BUT NO 24-30 VDC INDICATION ABOVE RECT V ON MPD (CONT)


2CB11
RECT VOLTS
P7B22 (2)
5
P72A22 (2)
2K6
RECTIFIER RELAY
A1
12
P72B22 (2)
2A1J1
2A1P1
T
P72C22 (2)
3431A2P5
3431A2
J5
MCPU, RIGHT
58
TRU VOLT HI
P73A22N (2)
69
TRU VOLT LO
P7A1 (2) ALUM
+
2PS1
TRU
406475-49

66. TRANSFORMER-RECTIFIER UNIT ON (NO PERCENT LOAD DISPLAY ON MPD)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from transformer rectifier unit terminal 2PS1-(–) to airframe ground.

Is continuity present?

Disconnect TRU shunt 2R3-(–).

Check for continuity from 2R3-(–) to left MCPU connector 3431A1P5-57.

Is continuity present?

Repair or replace wire P100A24 (6) BLU.

Check condition of bus bar.

Is bus bar good?

Replace bus bar (TM 55-1500-323-25).

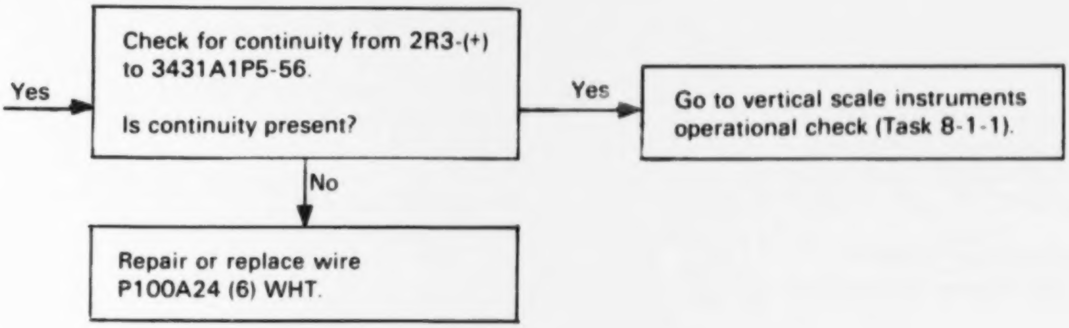
Check for continuity across TRU shunt 2R3.

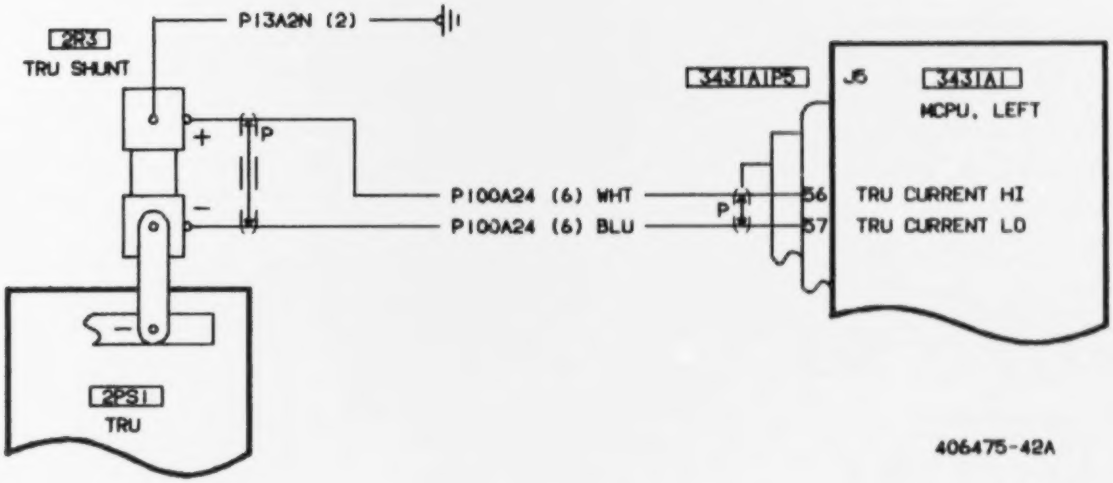
Is continuity present?

Replace TRU shunt 2R3 (Tasks 9-6-44/45).

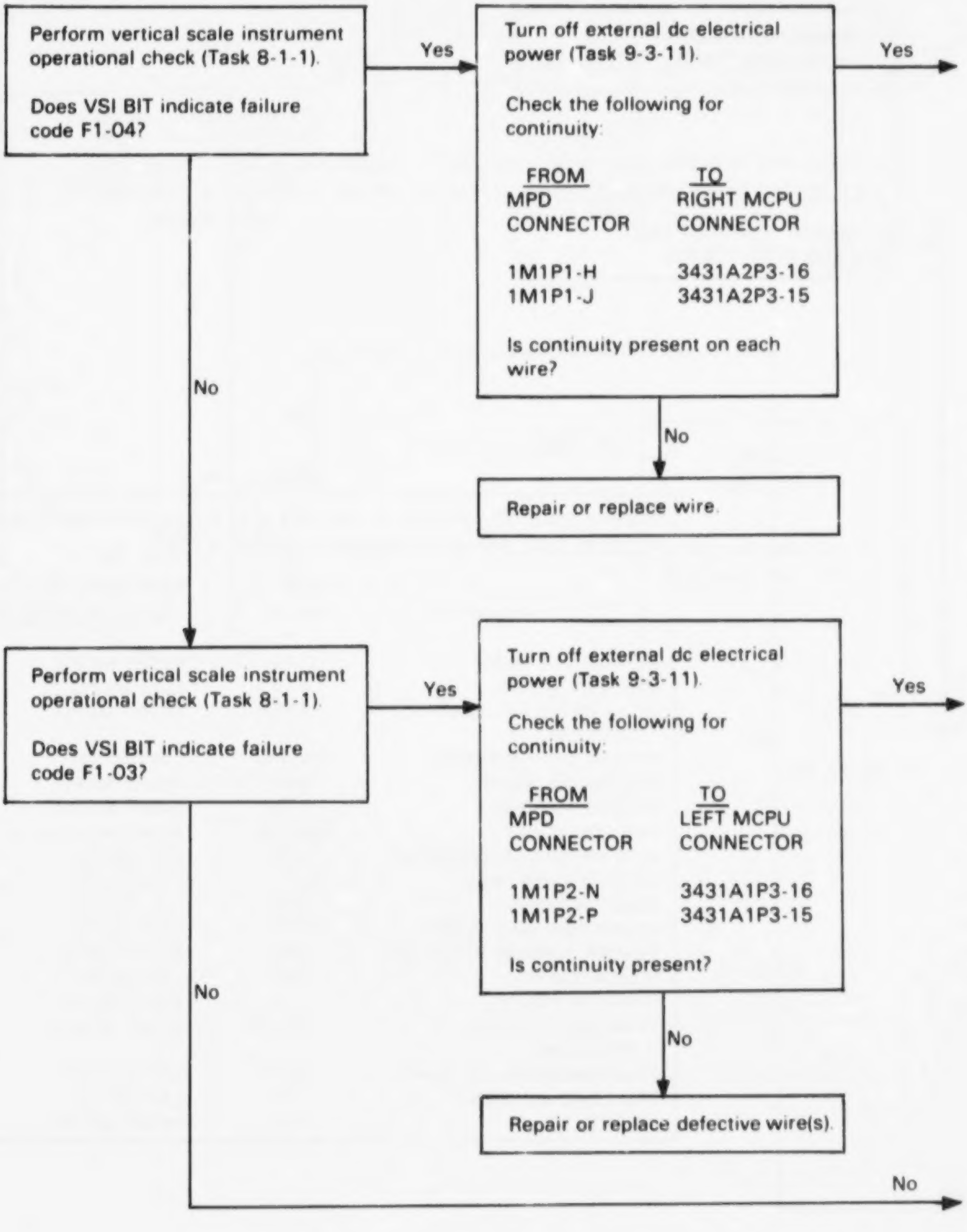
Repair or replace wire P13A2N (2).

66. TRANSFORMER-RECTIFIER UNIT ON (NO PERCENT LOAD DISPLAY ON MPD) (CONT)


Yes
Check for continuity from 2R3-(+) to 3431A1P5-56.
Is continuity present?
Yes
Go to vertical scale instruments operational check (Task 8-1-1).
No
Repair or replace wire P100A24 (6) WHT.


P13A2N (2)
2R3
TRU SHUNT
+
−
P
P100A24 (6) WHT
P100A24 (6) BLU
P
3431A1P5
J5
3431A1
MCPU, LEFT
56
57
TRU CURRENT HI
TRU CURRENT LO
−
2PS1
TRU
406475-42A

67. VERTICAL SCALE INSTRUMENT TEST PATTERN INCORRECT DURING MFD DISPLAY CHECK



Perform vertical scale instrument operational check (Task 8-1-1).

Does VSI BIT indicate failure code F1-04?

Turn off external dc electrical power (Task 9-3-11).

Check the following for continuity:

FROM MPD CONNECTOR	TO RIGHT MCPU CONNECTOR
1M1P1-H	3431A2P3-16
1M1P1-J	3431A2P3-15

Is continuity present on each wire?

Repair or replace wire.

Perform vertical scale instrument operational check (Task 8-1-1).

Does VSI BIT indicate failure code F1-03?

Turn off external dc electrical power (Task 9-3-11).

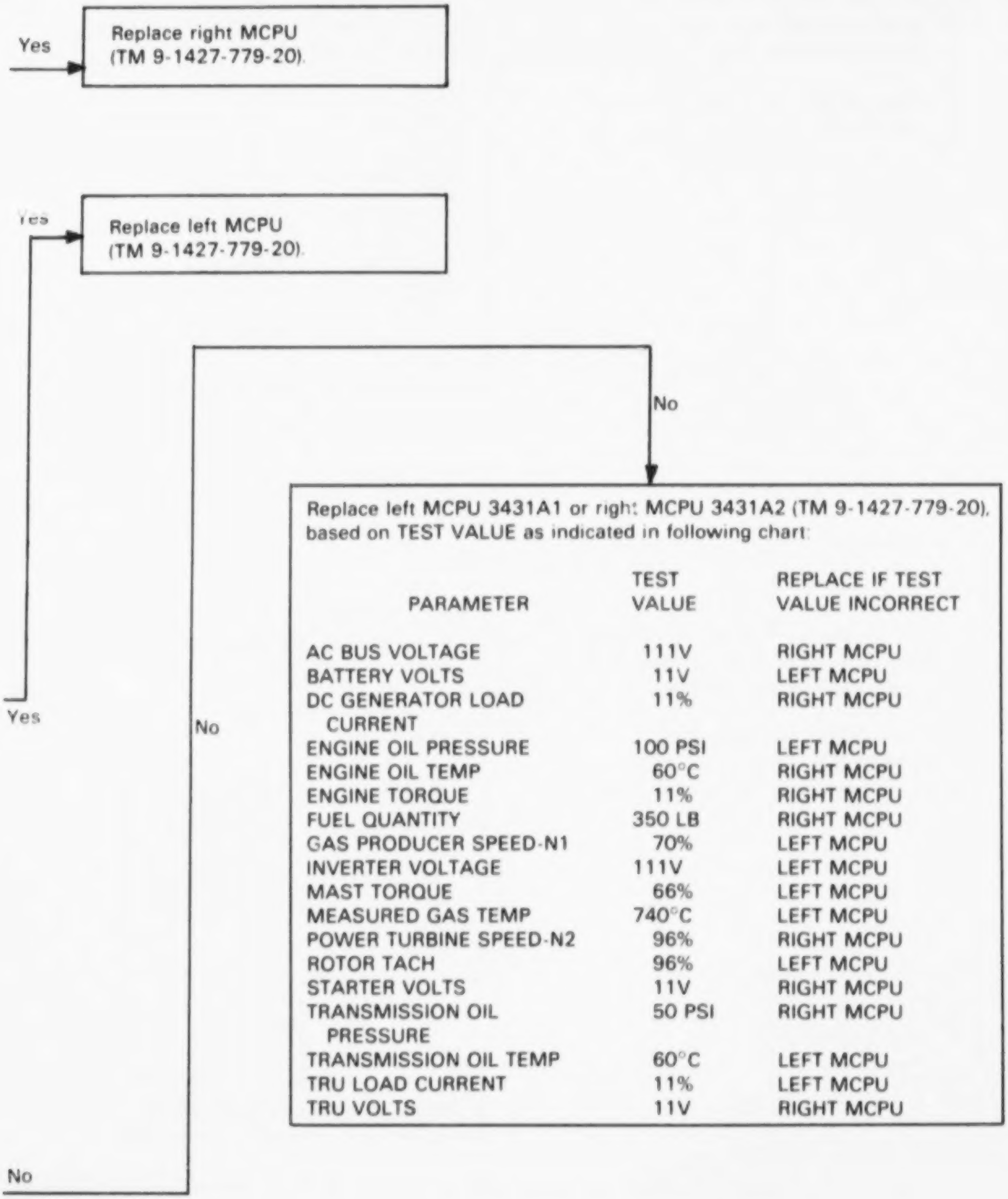
Check the following for continuity:

FROM MPD CONNECTOR	TO LEFT MCPU CONNECTOR
1M1P2-N	3431A1P3-16
1M1P2-P	3431A1P3-15

Is continuity present?

Repair or replace defective wire(s).

67. VERTICAL SCALE INSTRUMENT TEST PATTERN INCORRECT DURING MFD DISPLAY CHECK (CONT)



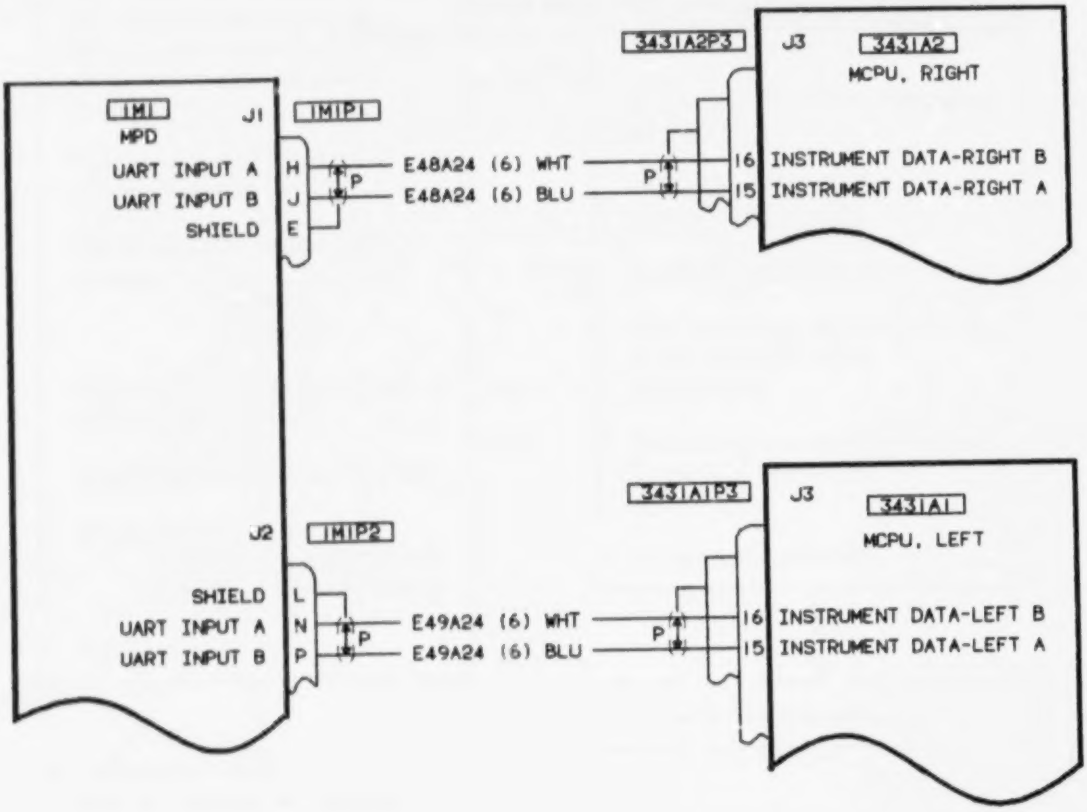
Replace right MCPU (TM 9-1427-779-20).

Replace left MCPU (TM 9-1427-779-20).

Replace left MCPU 3431A1 or right MCPU 3431A2 (TM 9-1427-779-20), based on TEST VALUE as indicated in following chart:

PARAMETER	TEST VALUE	REPLACE IF TEST VALUE INCORRECT
AC BUS VOLTAGE	111V	RIGHT MCPU
BATTERY VOLTS	11V	LEFT MCPU
DC GENERATOR LOAD CURRENT	11%	RIGHT MCPU
ENGINE OIL PRESSURE	100 PSI	LEFT MCPU
ENGINE OIL TEMP	60°C	RIGHT MCPU
ENGINE TORQUE	11%	RIGHT MCPU
FUEL QUANTITY	350 LB	RIGHT MCPU
GAS PRODUCER SPEED-N1	70%	LEFT MCPU
INVERTER VOLTAGE	111V	LEFT MCPU
MAST TORQUE	66%	LEFT MCPU
MEASURED GAS TEMP	740°C	LEFT MCPU
POWER TURBINE SPEED-N2	96%	RIGHT MCPU
ROTOR TACH	96%	LEFT MCPU
STARTER VOLTS	11V	RIGHT MCPU
TRANSMISSION OIL PRESSURE	50 PSI	RIGHT MCPU
TRANSMISSION OIL TEMP	60°C	LEFT MCPU
TRU LOAD CURRENT	11%	LEFT MCPU
TRU VOLTS	11V	RIGHT MCPU

67. VERTICAL SCALE INSTRUMENT TEST PATTERN INCORRECT DURING MFD DISPLAY CHECK (CONT)

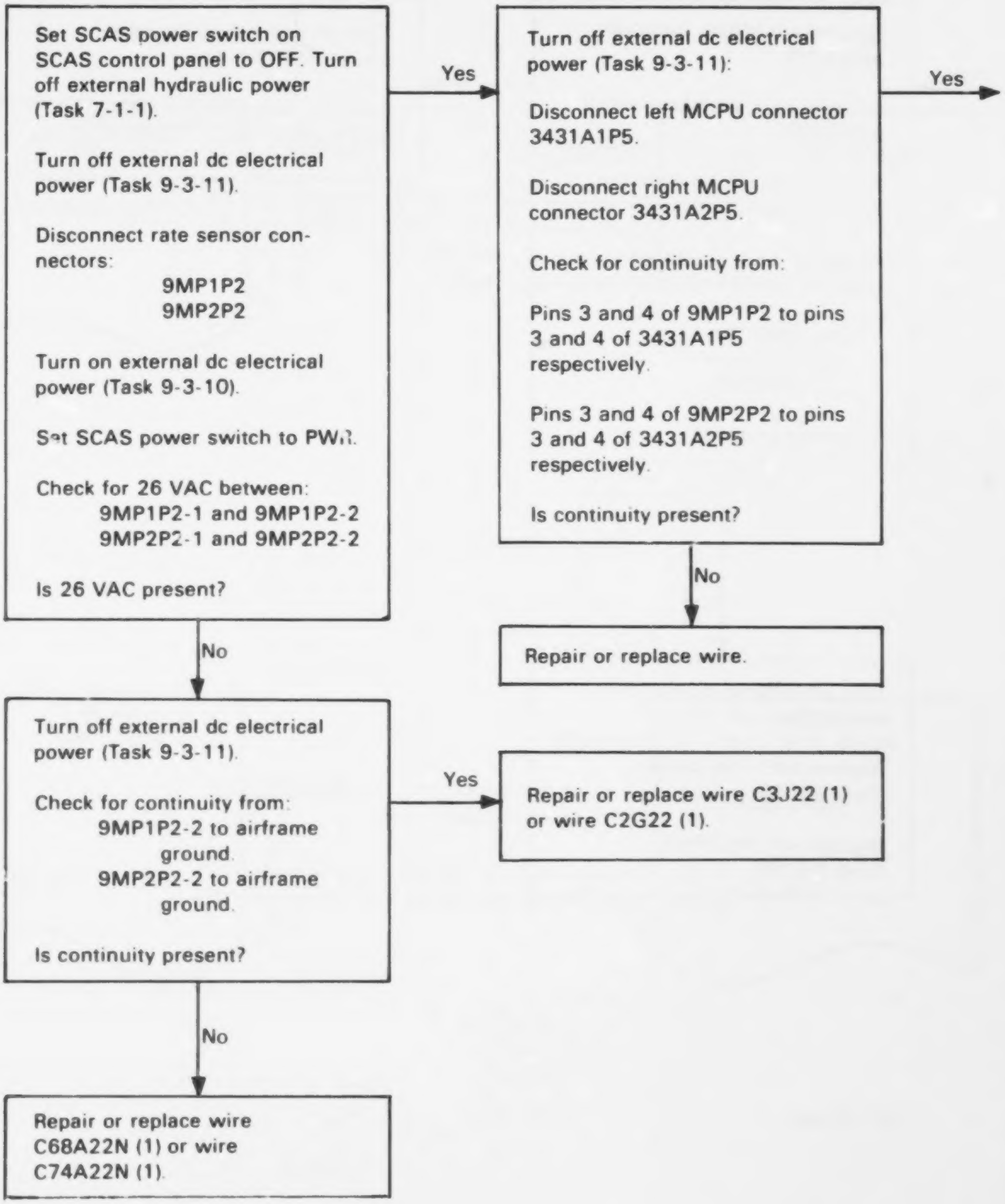

3431A2P3
J3
3431A2
MCPU, RIGHT
1M1
J1
1M1P1
MPD
UART INPUT A
UART INPUT B
SHIELD
H
J
E
P
E48A24 (6) WHT
E48A24 (6) BLU
P
16
15
INSTRUMENT DATA-RIGHT B
INSTRUMENT DATA-RIGHT A
3431A1P3
J3
3431A1
MCPU, LEFT
J2
1M1P2
SHIELD
UART INPUT A
UART INPUT B
L
N
P
P
E49A24 (6) WHT
E49A24 (6) BLU
P
16
15
INSTRUMENT DATA-LEFT B
INSTRUMENT DATA-LEFT A

406475-34A

68. VOLTAGE REGULATOR CONTROL KNOB DOES NOT CHANGE BATT V INDICATION ON MPD

Replace the voltage regulator 2VR1 (Task 9-3-21).

69. YAW RATE SENSOR FAILURE CODE 24 IS DISPLAYED ON MFD



Set SCAS power switch on SCAS control panel to OFF. Turn off external hydraulic power (Task 7-1-1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect rate sensor connectors:
9MP1P2
9MP2P2

Turn on external dc electrical power (Task 9-3-10).

Set SCAS power switch to PWR.

Check for 26 VAC between:
9MP1P2-1 and 9MP1P2-2
9MP2P2-1 and 9MP2P2-2

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11):

Disconnect left MCPU connector 3431A1P5.

Disconnect right MCPU connector 3431A2P5.

Check for continuity from:

Pins 3 and 4 of 9MP1P2 to pins 3 and 4 of 3431A1P5 respectively.

Pins 3 and 4 of 9MP2P2 to pins 3 and 4 of 3431A2P5 respectively.

Is continuity present?

Repair or replace wire.

Turn off external dc electrical power (Task 9-3-11).

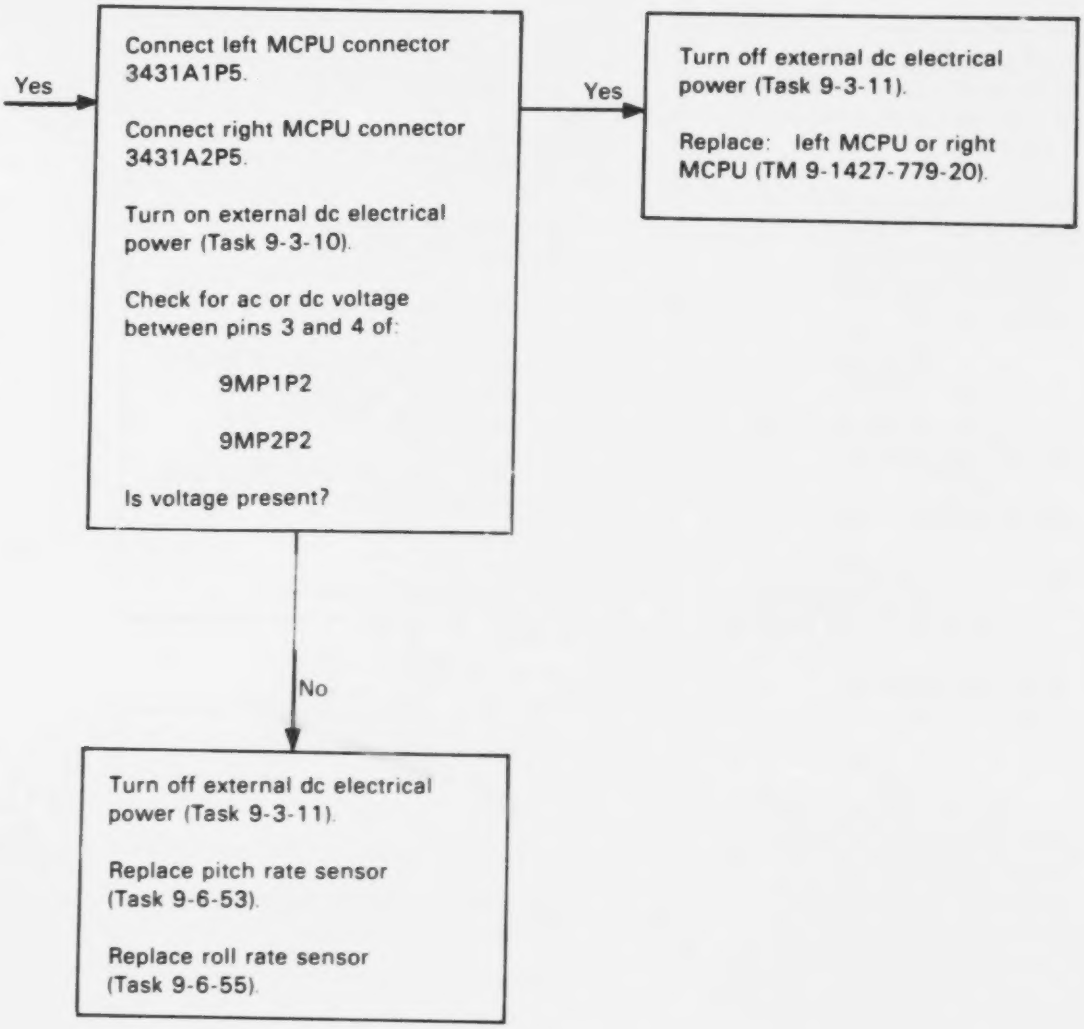
Check for continuity from:
9MP1P2-2 to airframe ground.
9MP2P2-2 to airframe ground.

Is continuity present?

Repair or replace wire C3J22 (1) or wire C2G22 (1).

Repair or replace wire C68A22N (1) or wire C74A22N (1).

69. YAW RATE SENSOR FAILURE CODE 24 IS DISPLAYED ON MFD (CONT)



Connect left MCPU connector 3431A1P5.

Connect right MCPU connector 3431A2P5.

Turn on external dc electrical power (Task 9-3-10).

Check for ac or dc voltage between pins 3 and 4 of:

9MP1P2

9MP2P2

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

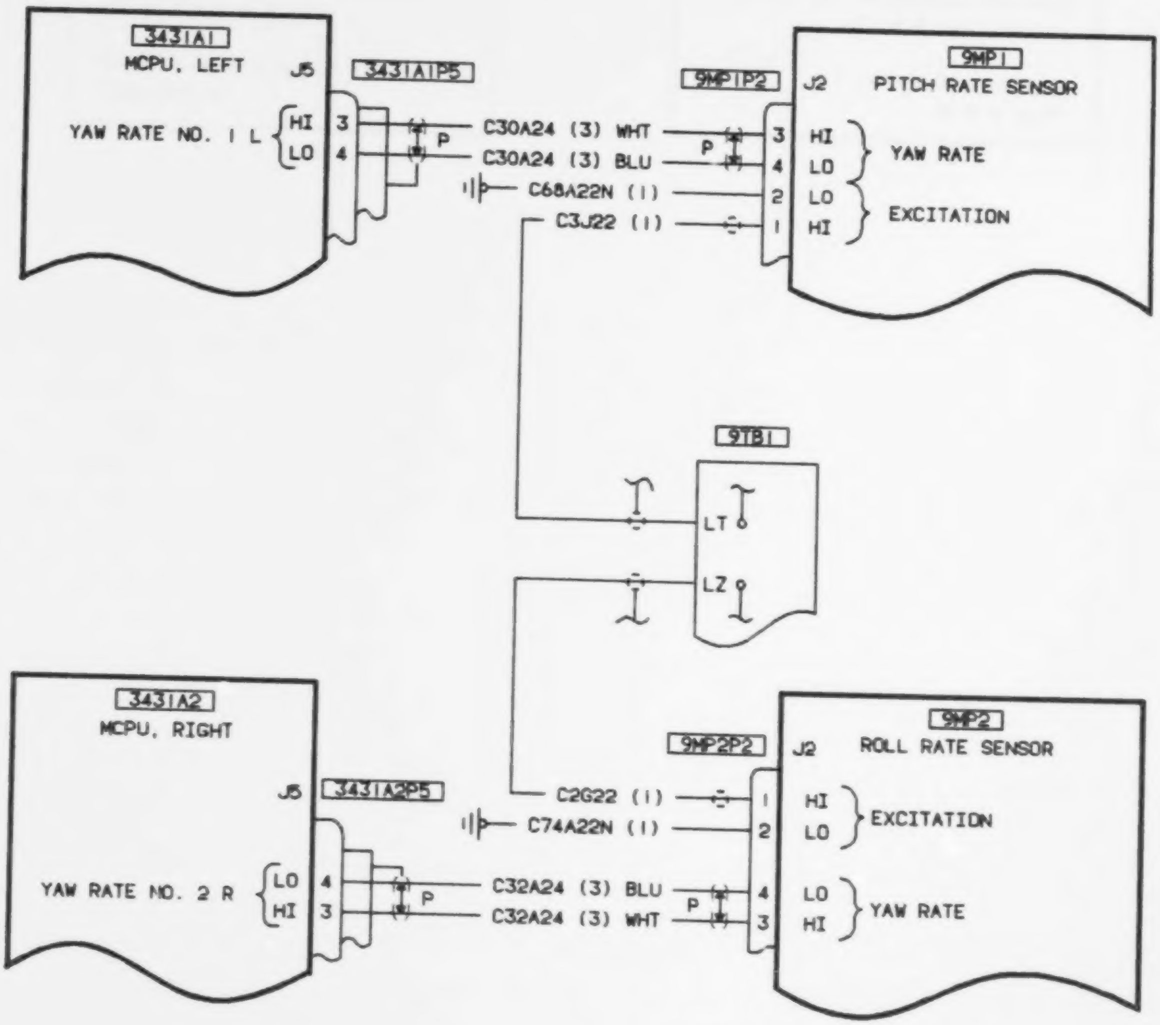
Replace: left MCPU or right MCPU (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Replace pitch rate sensor (Task 9-6-53).

Replace roll rate sensor (Task 9-6-55).

69. YAW RATE SENSOR FAILURE CODE 24 IS DISPLAYED ON MFD (CONT)


3431A1
MCPU, LEFT
J5
3431A1P5
YAW RATE NO. 1 L
HI 3
LO 4
P
C30A24 (3) WHT
C30A24 (3) BLU
C68A22N (1)
C3J22 (1)
9MP1P2
J2
9MP1
PITCH RATE SENSOR
3 HI
4 LO
2 LO
1 HI
YAW RATE
EXCITATION
9TB1
LT
LZ
3431A2
MCPU, RIGHT
J5
3431A2P5
YAW RATE NO. 2 R
LO 4
HI 3
C2G22 (1)
C74A22N (1)
C32A24 (3) BLU
C32A24 (3) WHT
9MP2P2
J2
9MP2
ROLL RATE SENSOR
1 HI
2 LO
4 LO
3 HI
EXCITATION
YAW RATE

406475-23A

70. BATTERY 1 HALF VOLTAGE (APPROXIMATELY) NOT PRESENT AT CONNECTOR 2BT1J2-9

Turn off external dc electrical power (Task 9-3-11).

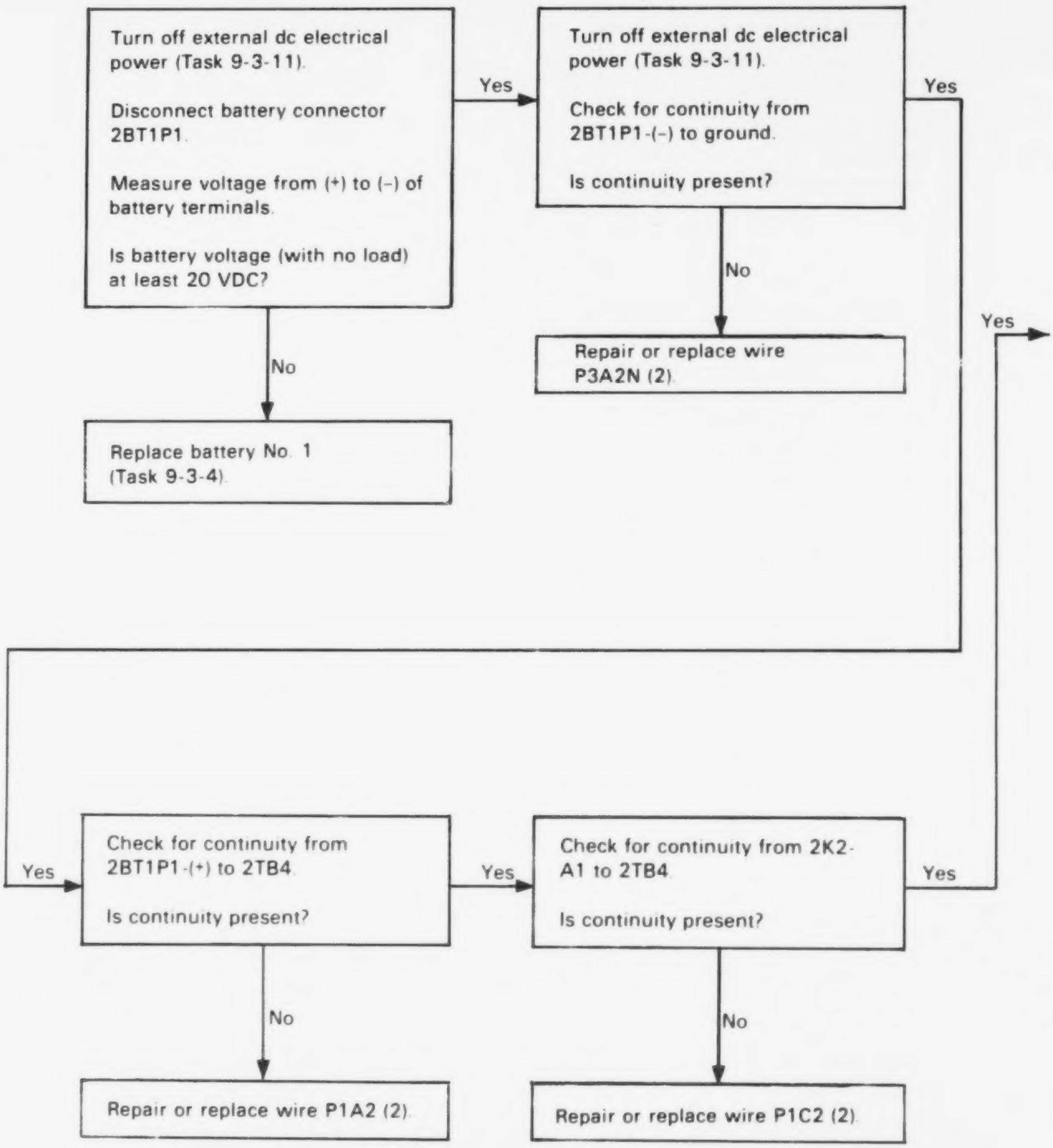
Replace battery No. 1 (Task 9-3-4).

71. BATTERY 2 HALF VOLTAGE (APPROXIMATELY) NOT PRESENT AT CONNECTOR 2BT2J2-9

Turn off external dc electrical power (Task 9-3-11).

Replace battery No. 2 (Task 9-3-4).

72. BATTERY 1 WILL NOT COME ON (BATT 1 SWITCH IS SET TO BATT 1)



Turn off external dc electrical power (Task 9-3-11).

Disconnect battery connector 2BT1P1.

Measure voltage from (+) to (-) of battery terminals.

Is battery voltage (with no load) at least 20 VDC?

Replace battery No. 1 (Task 9-3-4).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 2BT1P1-(-) to ground.

Is continuity present?

Repair or replace wire P3A2N (2).

Check for continuity from 2BT1P1-(+) to 2TB4.

Is continuity present?

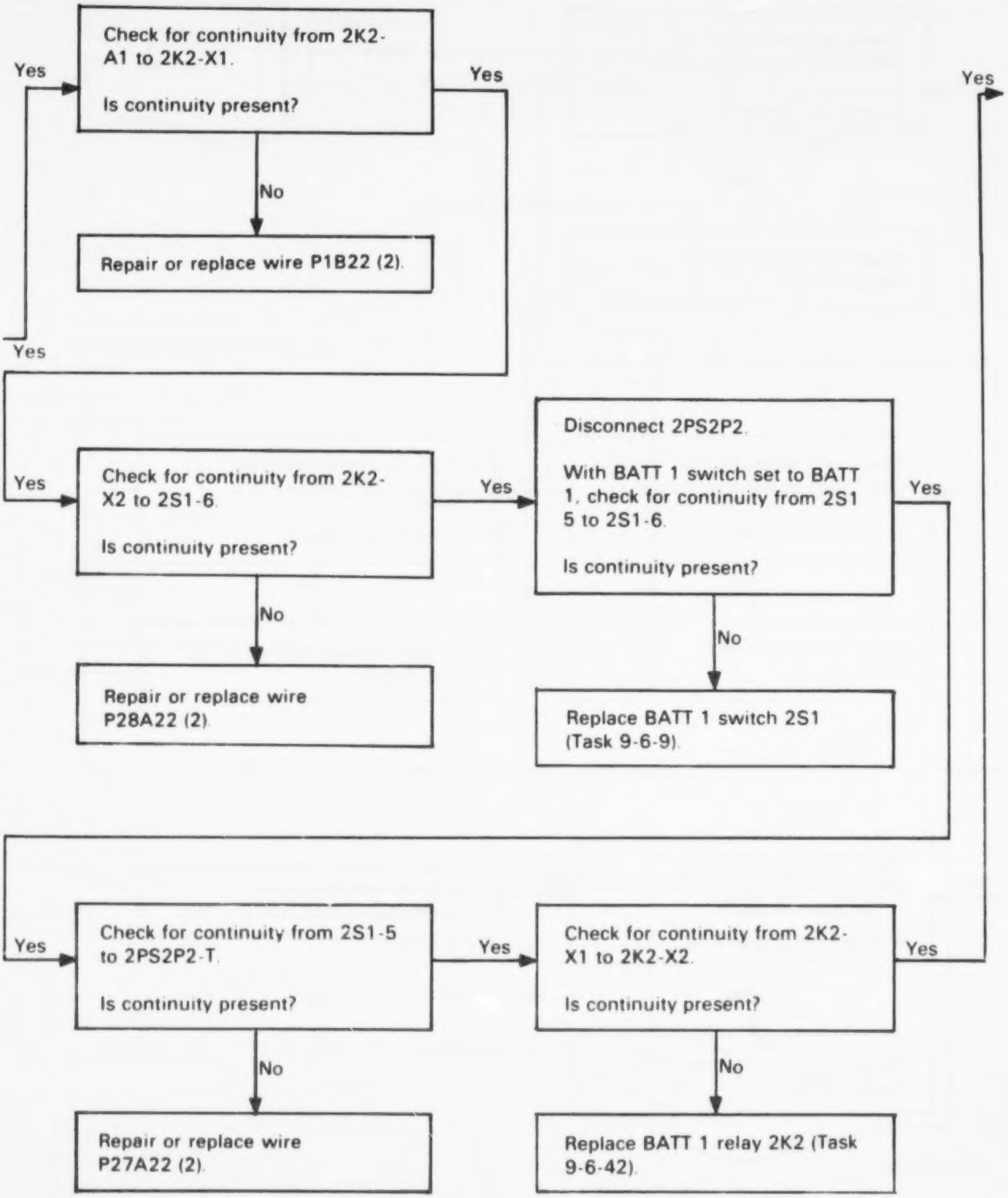
Repair or replace wire P1A2 (2).

Check for continuity from 2K2-A1 to 2TB4.

Is continuity present?

Repair or replace wire P1C2 (2).

72. BATTERY 1 WILL NOT COME ON (BATT 1 SWITCH IS SET TO BATT 1) (CONT)



Check for continuity from 2K2-A1 to 2K2-X1.

Is continuity present?

Repair or replace wire P1B22 (2).

Check for continuity from 2K2-X2 to 2S1-6.

Is continuity present?

Repair or replace wire P28A22 (2).

Disconnect 2PS2P2.

With BATT 1 switch set to BATT 1, check for continuity from 2S1 5 to 2S1-6.

Is continuity present?

Replace BATT 1 switch 2S1 (Task 9-6-9).

Check for continuity from 2S1-5 to 2PS2P2-T.

Is continuity present?

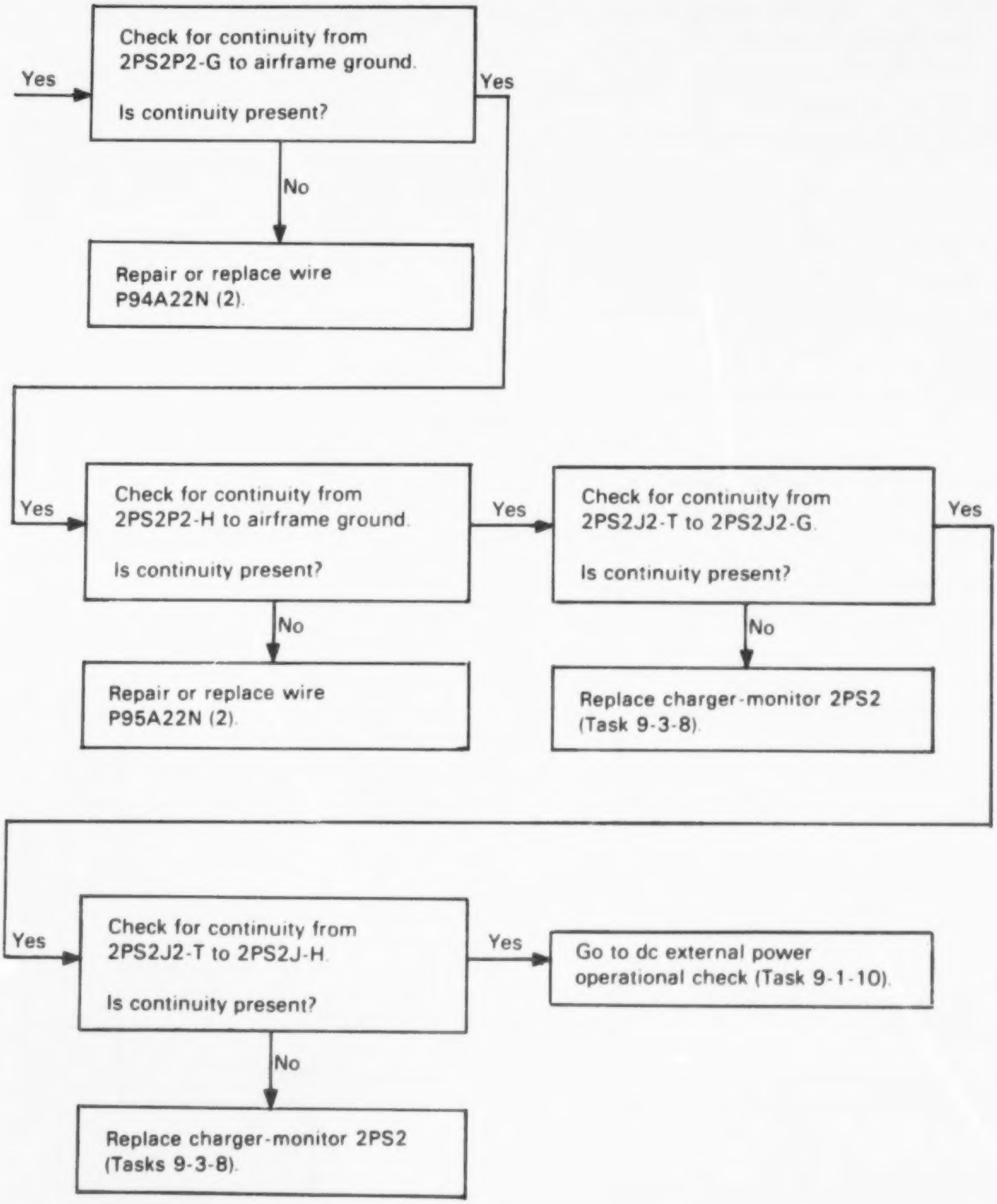
Repair or replace wire P27A22 (2).

Check for continuity from 2K2-X1 to 2K2-X2.

Is continuity present?

Replace BATT 1 relay 2K2 (Task 9-6-42).

72. BATTERY 1 WILL NOT COME ON (BATT 1 SWITCH IS SET TO BATT 1) (CONT)



Check for continuity from 2PS2P2-G to airframe ground.

Is continuity present?

Repair or replace wire P94A22N (2).

Check for continuity from 2PS2P2-H to airframe ground.

Is continuity present?

Repair or replace wire P95A22N (2).

Check for continuity from 2PS2J2-T to 2PS2J2-G.

Is continuity present?

Replace charger-monitor 2PS2 (Task 9-3-8).

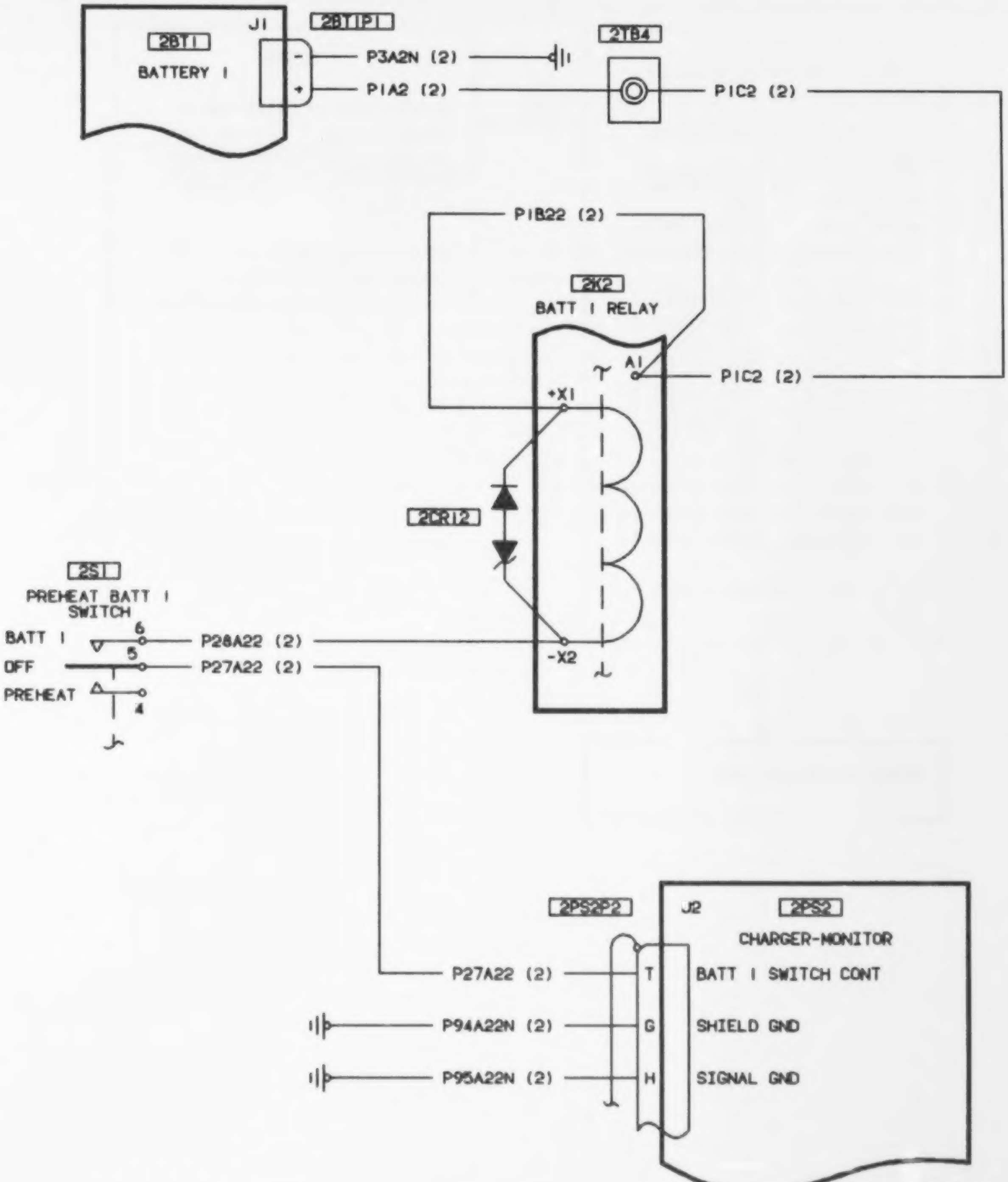
Check for continuity from 2PS2J2-T to 2PS2J-H.

Is continuity present?

Go to dc external power operational check (Task 9-1-10).

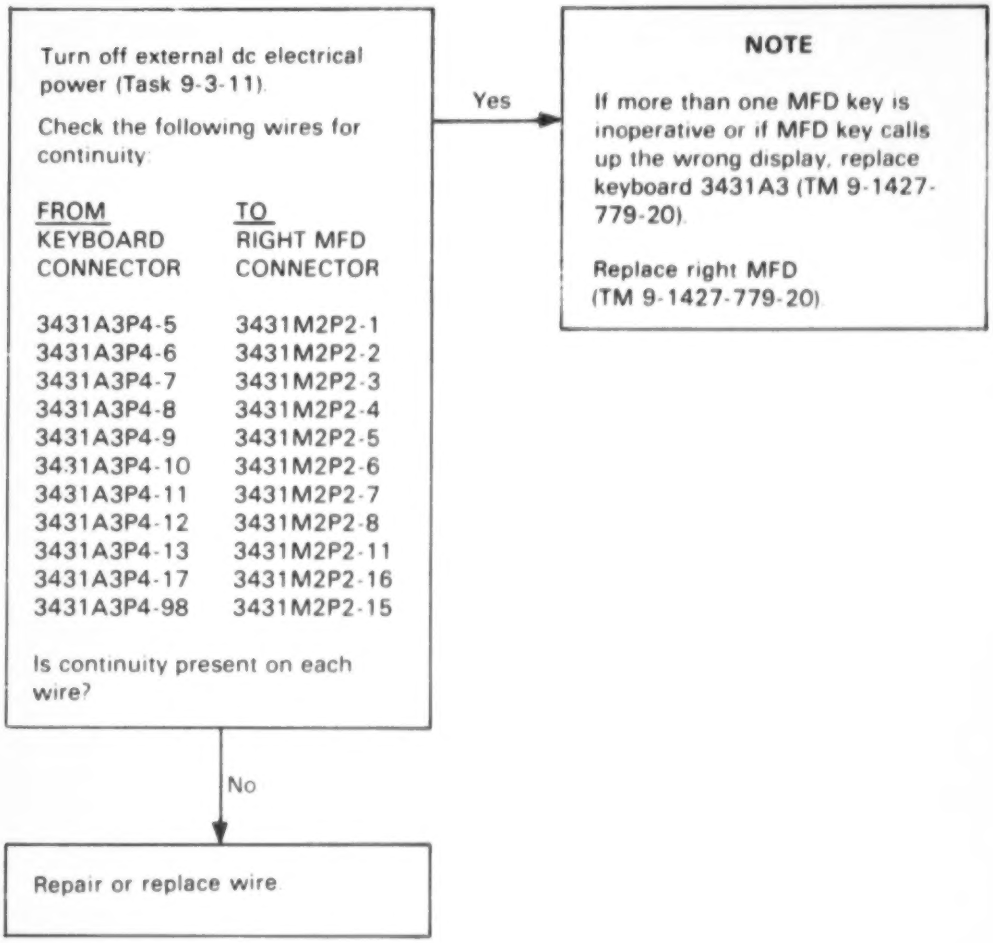
Replace charger-monitor 2PS2 (Tasks 9-3-8).

72. BATTERY 1 WILL NOT COME ON (BATT 1 SWITCH IS SET TO BATT 1) (CONT)


2BT1
BATTERY 1
J1
2BT1P1
-
+
P3A2N (2)
P1A2 (2)
2TB4
P1C2 (2)
P1B22 (2)
2K2
BATT 1 RELAY
A1
P1C2 (2)
+X1
-X2
2CR12
2S1
PREHEAT BATT 1 SWITCH
BATT 1
OFF
PREHEAT
6
5
4
P28A22 (2)
P27A22 (2)
2PS2P2
J2
2PS2
CHARGER-MONITOR
P27A22 (2)
P94A22N (2)
P95A22N (2)
T
G
H
BATT 1 SWITCH CONT
SHIELD GND
SIGNAL GND

406475-40A

73. MFD (PILOT) KEY HAS NO RESPONSE DURING SWITCH CHECK



Turn off external dc electrical power (Task 9-3-11).

Check the following wires for continuity:

FROM KEYBOARD CONNECTOR	TO RIGHT MFD CONNECTOR
3431A3P4-5	3431M2P2-1
3431A3P4-6	3431M2P2-2
3431A3P4-7	3431M2P2-3
3431A3P4-8	3431M2P2-4
3431A3P4-9	3431M2P2-5
3431A3P4-10	3431M2P2-6
3431A3P4-11	3431M2P2-7
3431A3P4-12	3431M2P2-8
3431A3P4-13	3431M2P2-11
3431A3P4-17	3431M2P2-16
3431A3P4-98	3431M2P2-15

Is continuity present on each wire?

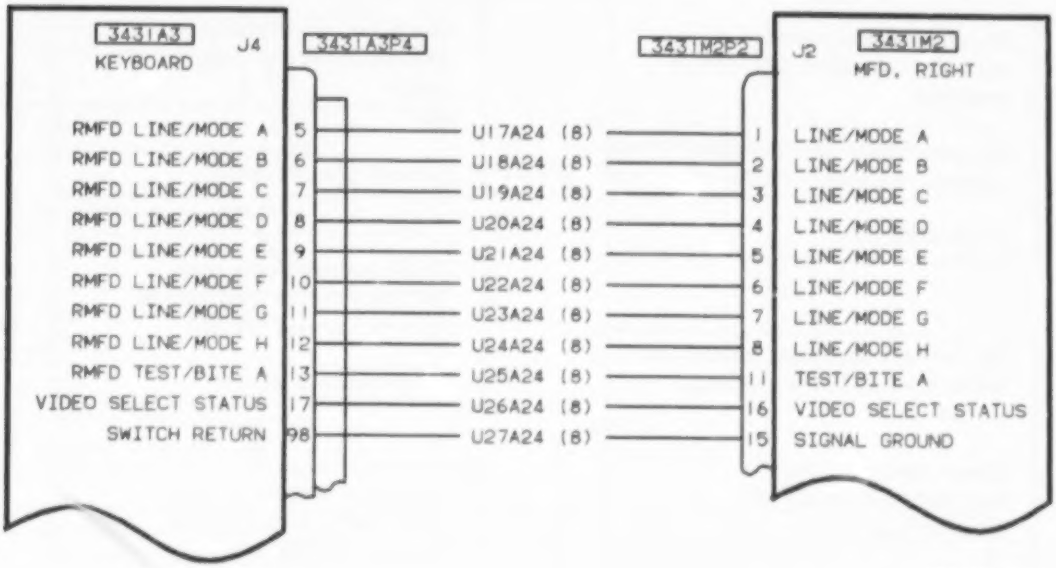
NOTE

If more than one MFD key is inoperative or if MFD key calls up the wrong display, replace keyboard 3431A3 (TM 9-1427-779-20).

Replace right MFD (TM 9-1427-779-20).

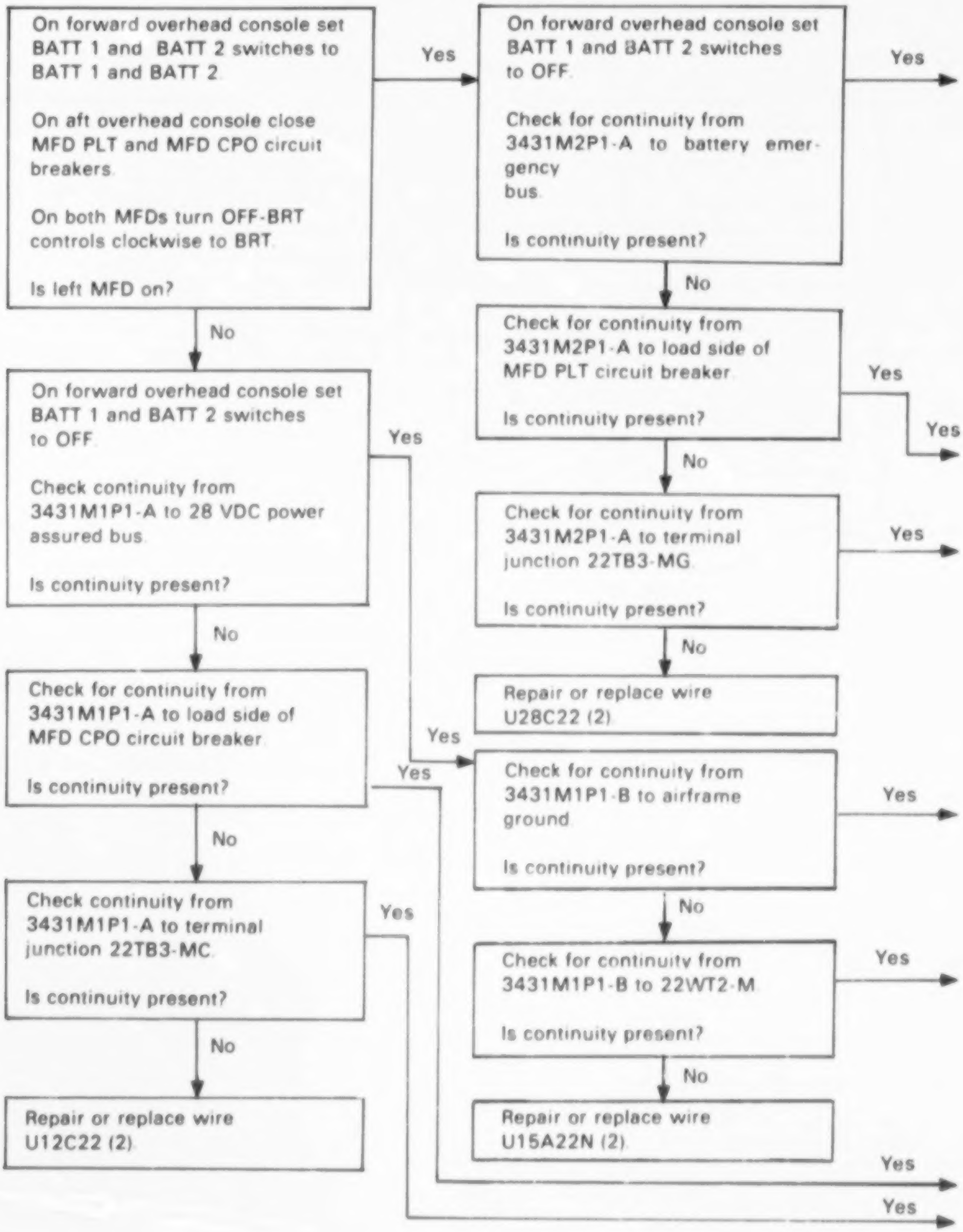
Repair or replace wire.

73. MFD (PILOT) KEY HAS NO RESPONSE DURING SWITCH CHECK (CONT)


3431A3
J4
KEYBOARD
3431A3P4
3431M2P2
J2
3431M2
MFD, RIGHT
RMFD LINE/MODE A
5
U17A24 (8)
1
LINE/MODE A
RMFD LINE/MODE B
6
U18A24 (8)
2
LINE/MODE B
RMFD LINE/MODE C
7
U19A24 (8)
3
LINE/MODE C
RMFD LINE/MODE D
8
U20A24 (8)
4
LINE/MODE D
RMFD LINE/MODE E
9
U21A24 (8)
5
LINE/MODE E
RMFD LINE/MODE F
10
U22A24 (8)
6
LINE/MODE F
RMFD LINE/MODE G
11
U23A24 (8)
7
LINE/MODE G
RMFD LINE/MODE H
12
U24A24 (8)
8
LINE/MODE H
RMFD TEST/BITE A
13
U25A24 (8)
11
TEST/BITE A
VIDEO SELECT STATUS
17
U26A24 (8)
16
VIDEO SELECT STATUS
SWITCH RETURN
98
U27A24 (8)
15
SIGNAL GROUND

406475-37

74. MFD DOES NOT COME ON (BATTERY 1 OR BATTERY 2 ON



On forward overhead console set BATT 1 and BATT 2 switches to BATT 1 and BATT 2.

On aft overhead console close MFD PLT and MFD CPO circuit breakers.

On both MFDs turn OFF-BRT controls clockwise to BRT.

Is left MFD on?

On forward overhead console set BATT 1 and BATT 2 switches to OFF.

Check for continuity from 3431M2P1-A to battery emergency bus.

Is continuity present?

Check for continuity from 3431M2P1-A to load side of MFD PLT circuit breaker.

Is continuity present?

Check for continuity from 3431M2P1-A to terminal junction 22TB3-MG.

Is continuity present?

Repair or replace wire U28C22 (2).

On forward overhead console set BATT 1 and BATT 2 switches to OFF.

Check continuity from 3431M1P1-A to 28 VDC power assured bus.

Is continuity present?

Check for continuity from 3431M1P1-A to load side of MFD CPO circuit breaker.

Is continuity present?

Check continuity from 3431M1P1-A to terminal junction 22TB3-MC.

Is continuity present?

Repair or replace wire U12C22 (2).

Check for continuity from 3431M1P1-B to airframe ground.

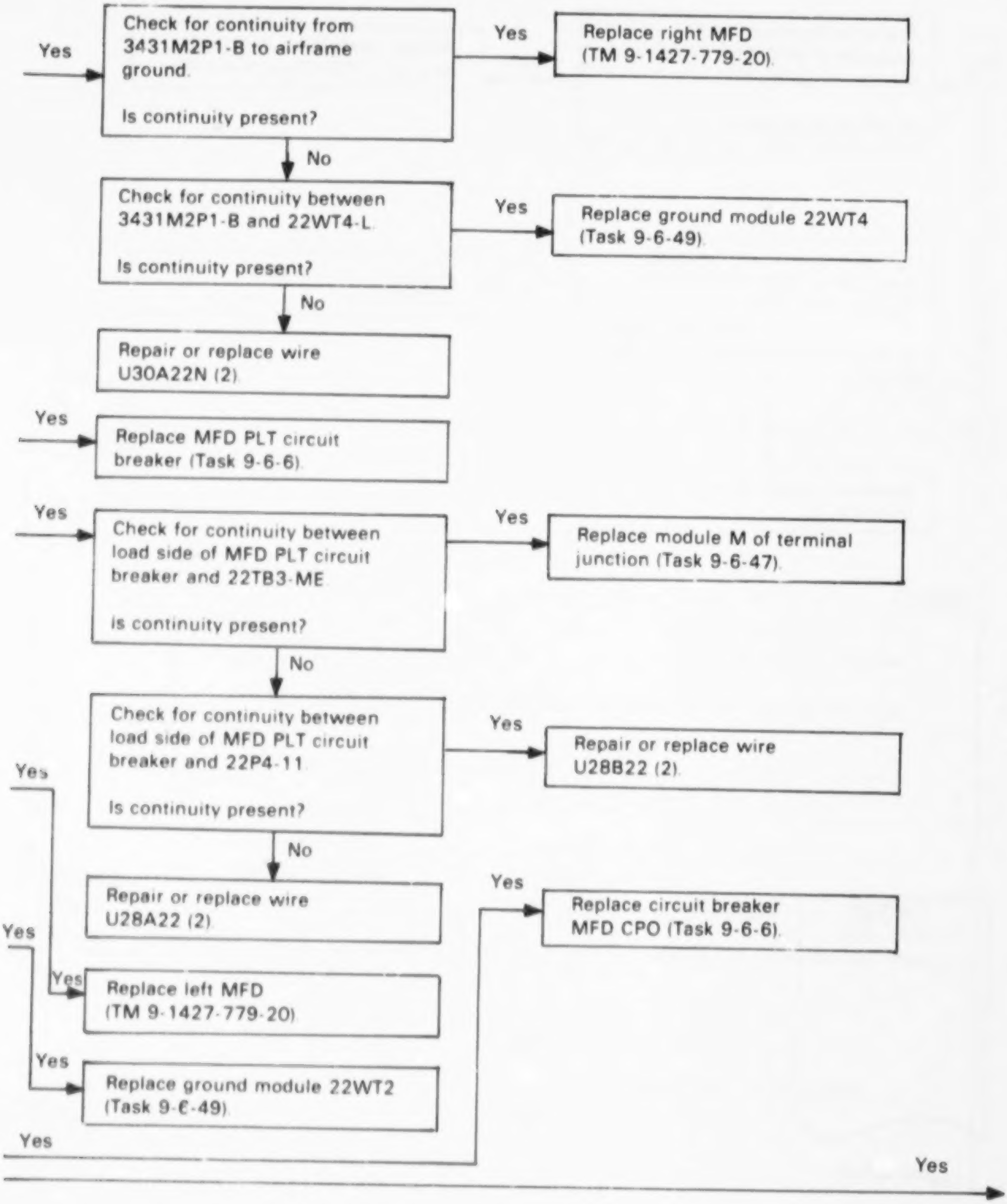
Is continuity present?

Check for continuity from 3431M1P1-B to 22WT2-M.

Is continuity present?

Repair or replace wire U15A22N (2).

74. MFD DOES NOT COME ON (BATTERY 1 OR BATTERY 2 ON (CONT)



Check for continuity from 3431M2P1-B to airframe ground.

Is continuity present?

Replace right MFD (TM 9-1427-779-20).

Check for continuity between 3431M2P1-B and 22WT4-L.

Is continuity present?

Replace ground module 22WT4 (Task 9-6-49).

Repair or replace wire U30A22N (2).

Replace MFD PLT circuit breaker (Task 9-6-6).

Check for continuity between load side of MFD PLT circuit breaker and 22TB3-ME.

Is continuity present?

Replace module M of terminal junction (Task 9-6-47).

Check for continuity between load side of MFD PLT circuit breaker and 22P4-11.

Is continuity present?

Repair or replace wire U28B22 (2).

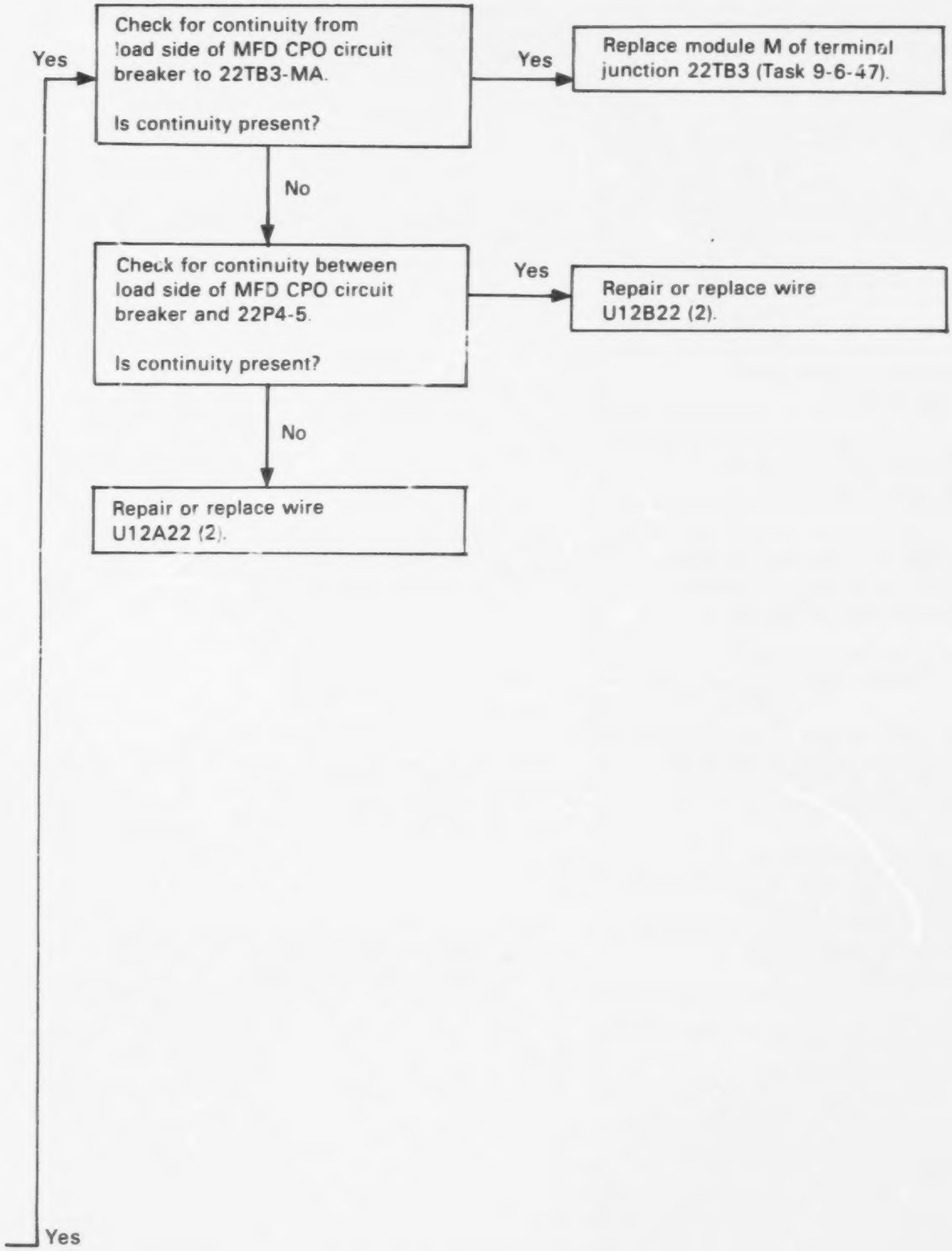
Repair or replace wire U28A22 (2).

Replace circuit breaker MFD CPO (Task 9-6-6).

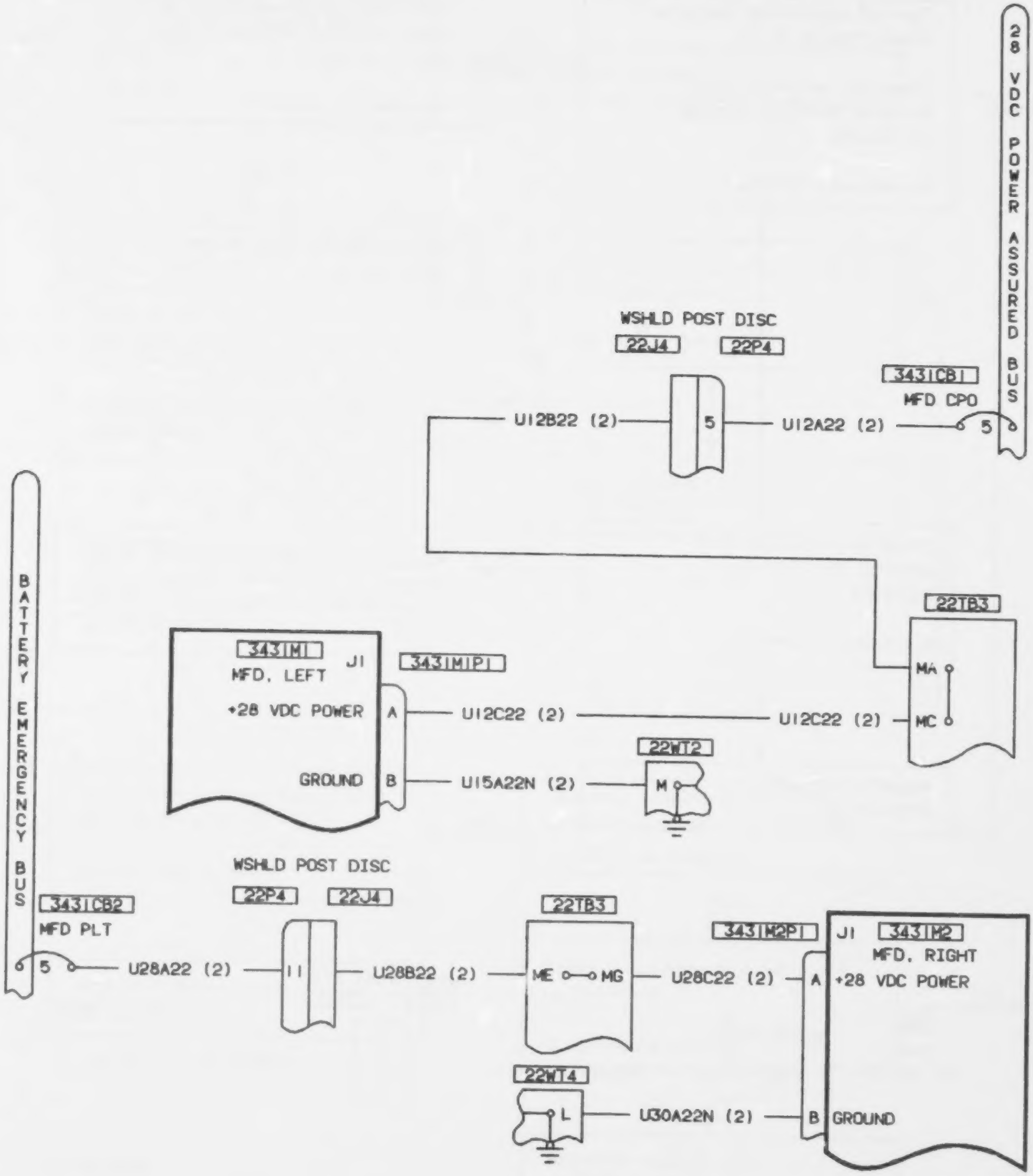
Replace left MFD (TM 9-1427-779-20).

Replace ground module 22WT2 (Task 9-6-49).

74. MFD DOES NOT COME ON (BATTERY 1 OR BATTERY 2 ON (CONT)

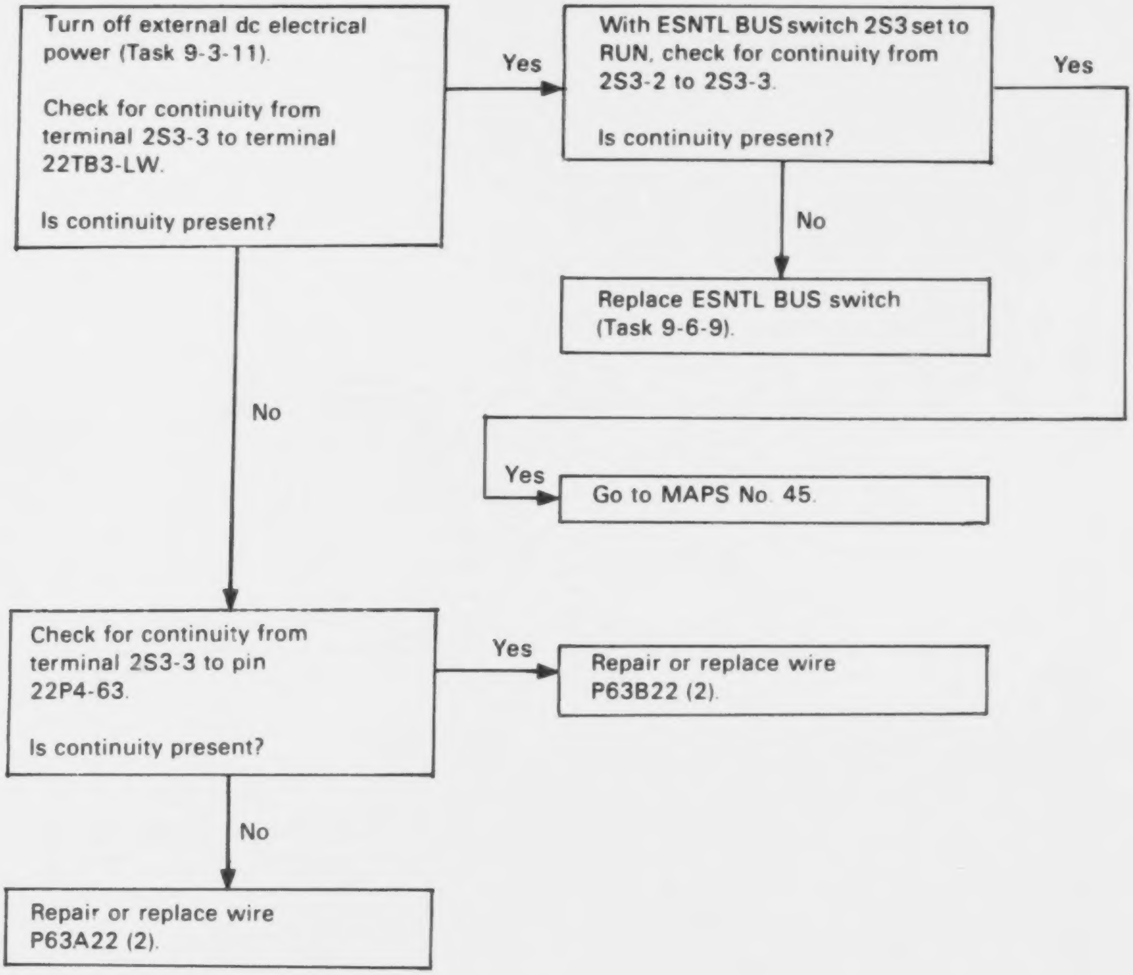

Yes
Check for continuity from load side of MFD CPO circuit breaker to 22TB3-MA.
Is continuity present?
Yes
Replace module M of terminal junction 22TB3 (Task 9-6-47).
No
Check for continuity between load side of MFD CPO circuit breaker and 22P4-5.
Is continuity present?
Yes
Repair or replace wire U12B22 (2).
No
Repair or replace wire U12A22 (2).
Yes

74. MFD DOES NOT COME ON (BATTERY 1 OR BATTERY 2 ON (CONT)


28 VDC POWER ASSURED BUS
WSHLD POST DISC
22J4
22P4
343ICB1
MFD CPO
U12B22 (2)
5
U12A22 (2)
5
BATTERY EMERGENCY BUS
22TB3
343IMI
MFD, LEFT
J1
343IMIP1
+28 VDC POWER
A
U12C22 (2)
U12C22 (2)
MA
MC
GROUND
B
U15A22N (2)
22WT2
M
WSHLD POST DISC
22P4
22J4
343ICB2
MFD PLT
5
U28A22 (2)
11
U28B22 (2)
22TB3
ME
MG
U28C22 (2)
343IM2P1
J1
343IM2
MFD, RIGHT
A
+28 VDC POWER
22WT4
L
U30A22N (2)
B
GROUND

406475-60B

75. MFD CPO DOES NOT COME ON (BATT 2 SWITCH SET TO BATT 2)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from terminal 2S3-3 to terminal 22TB3-LW.

Is continuity present?

Yes

With ESNTL BUS switch 2S3 set to RUN, check for continuity from 2S3-2 to 2S3-3.

Is continuity present?

No

Replace ESNTL BUS switch (Task 9-6-9).

Yes
Yes

Go to MAPS No. 45.

No

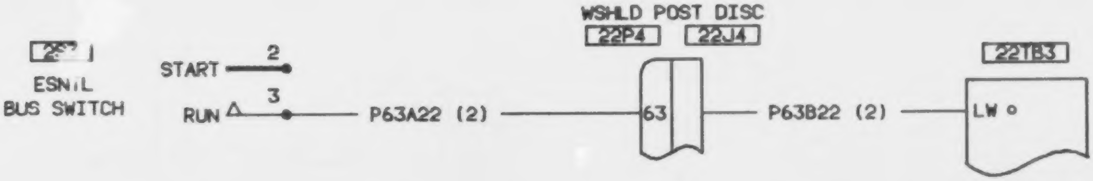
Check for continuity from terminal 2S3-3 to pin 22P4-63.

Is continuity present?

Yes

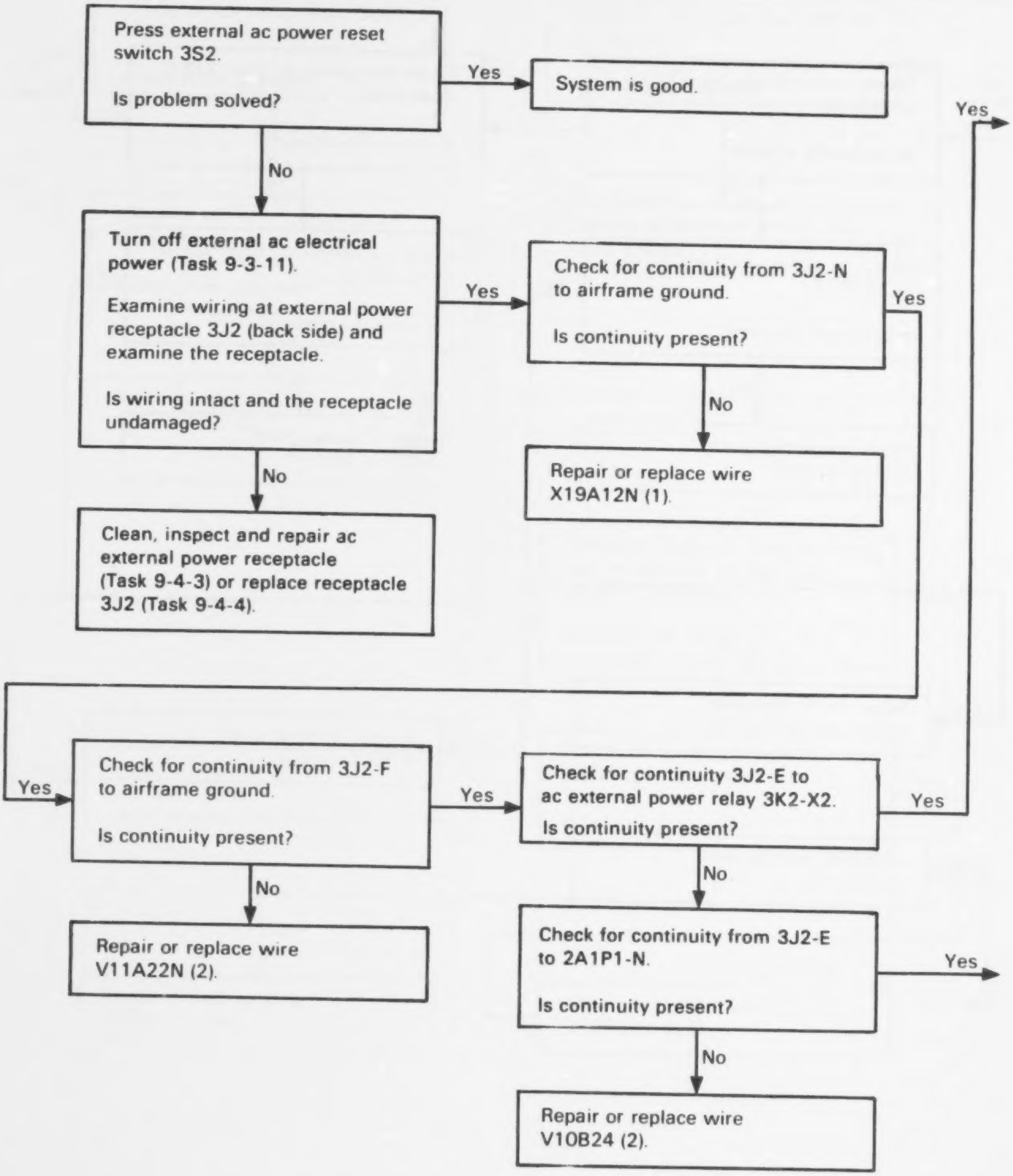
Repair or replace wire P63B22 (2).

Repair or replace wire P63A22 (2).

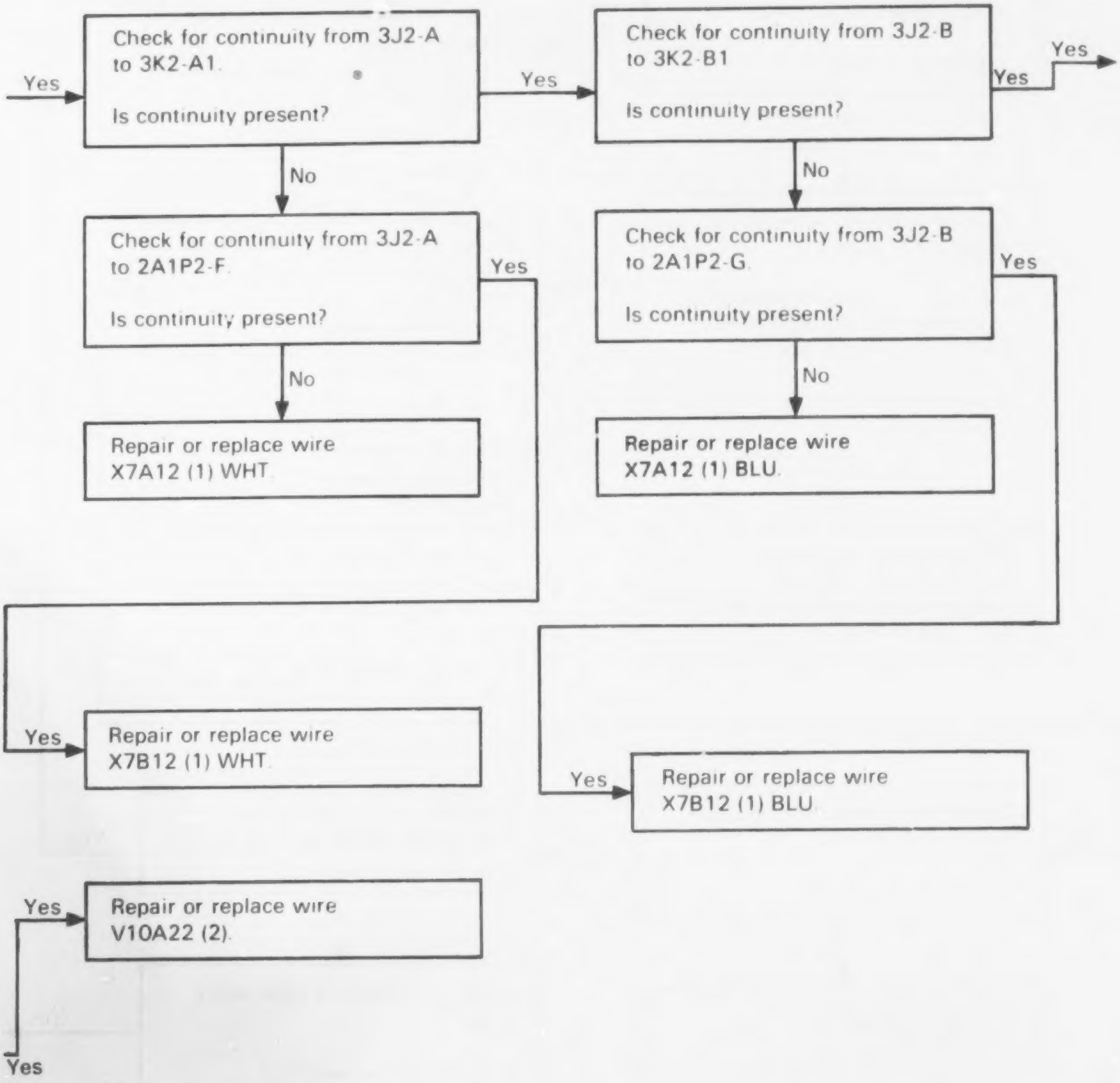

2S
ESNTL
BUS SWITCH
START
2
RUN
3
P63A22 (2)
WSHLD POST DISC
22P4
22J4
63
P63B22 (2)
22TB3
LW

406475-61A

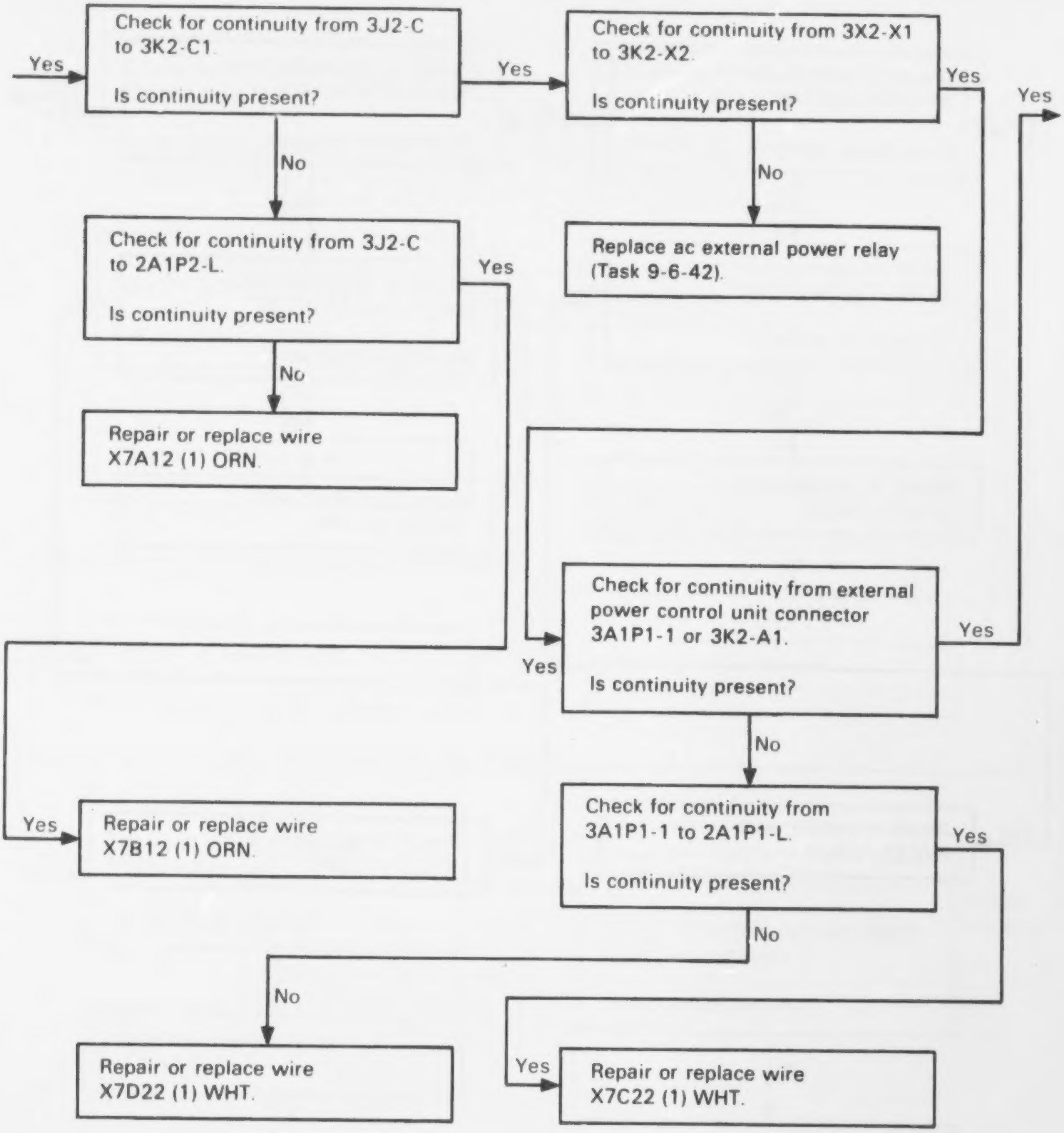
76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON)


Press external ac power reset switch 3S2.
Is problem solved?
Yes
System is good.
No
Turn off external ac electrical power (Task 9-3-11).
Examine wiring at external power receptacle 3J2 (back side) and examine the receptacle.
Is wiring intact and the receptacle undamaged?
Yes
Check for continuity from 3J2-N to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire X19A12N (1).
No
Clean, inspect and repair ac external power receptacle (Task 9-4-3) or replace receptacle 3J2 (Task 9-4-4).
Yes
Check for continuity from 3J2-F to airframe ground.
Is continuity present?
Yes
Check for continuity 3J2-E to ac external power relay 3K2-X2.
Is continuity present?
Yes
Yes
No
Repair or replace wire V11A22N (2).
No
Check for continuity from 3J2-E to 2A1P1-N.
Is continuity present?
Yes
No
Repair or replace wire V10B24 (2).

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)


Yes
Check for continuity from 3J2-A to 3K2-A1.
Is continuity present?
Yes
Check for continuity from 3J2-B to 3K2-B1
Is continuity present?
Yes
Yes
No
No
Check for continuity from 3J2-A to 2A1P2-F.
Is continuity present?
Yes
Check for continuity from 3J2-B to 2A1P2-G.
Is continuity present?
Yes
No
No
Repair or replace wire X7A12 (1) WHT.
Repair or replace wire X7A12 (1) BLU.
Yes
Repair or replace wire X7B12 (1) WHT.
Yes
Repair or replace wire X7B12 (1) BLU.
Yes
Repair or replace wire V10A22 (2).
Yes

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)



Check for continuity from 3J2-C to 3K2-C1.

Is continuity present?

Check for continuity from 3X2-X1 to 3K2-X2.

Is continuity present?

Check for continuity from 3J2-C to 2A1P2-L.

Is continuity present?

Replace ac external power relay (Task 9-6-42).

Repair or replace wire X7A12 (1) ORN.

Check for continuity from external power control unit connector 3A1P1-1 or 3K2-A1.

Is continuity present?

Repair or replace wire X7B12 (1) ORN.

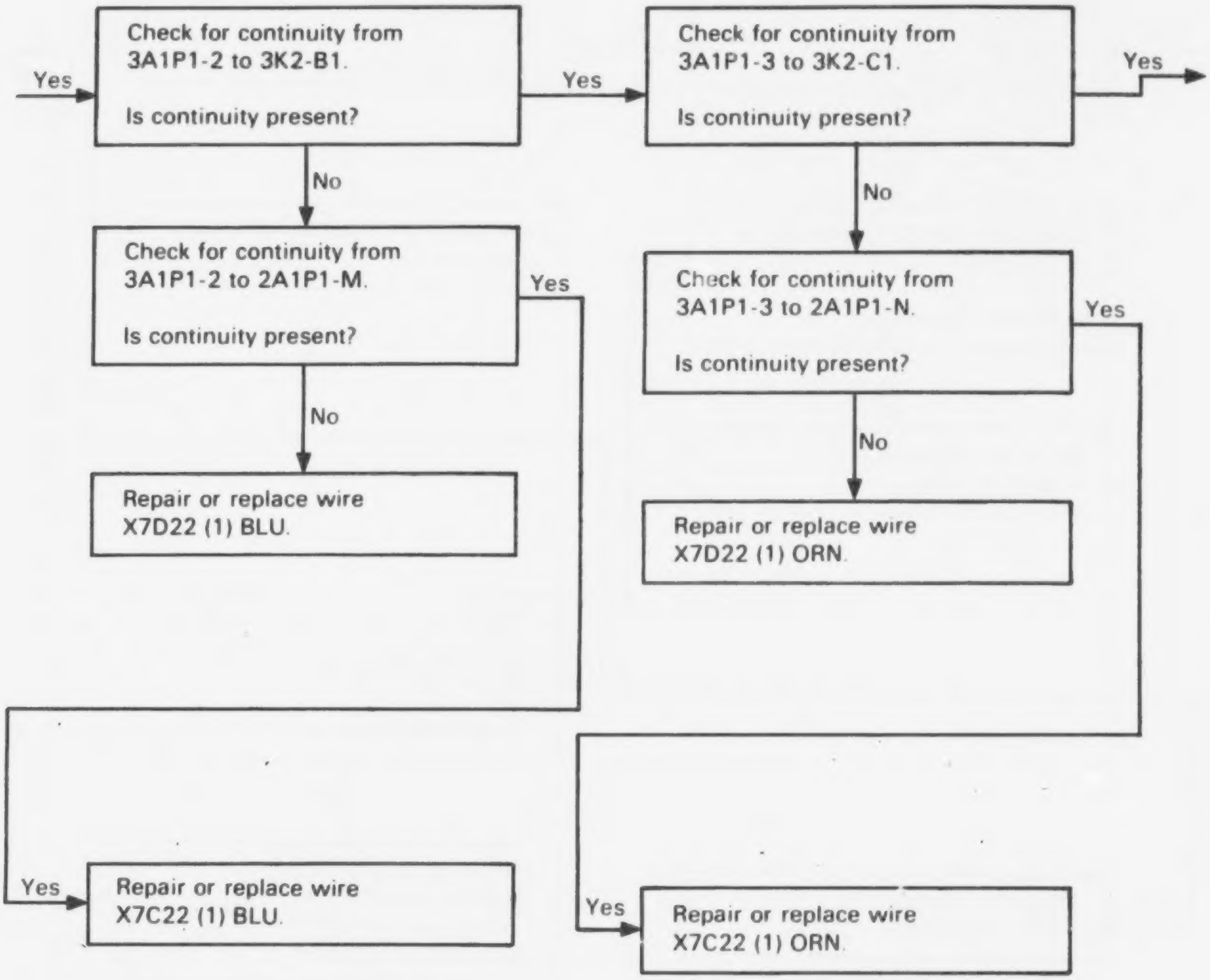
Check for continuity from 3A1P1-1 to 2A1P1-L.

Is continuity present?

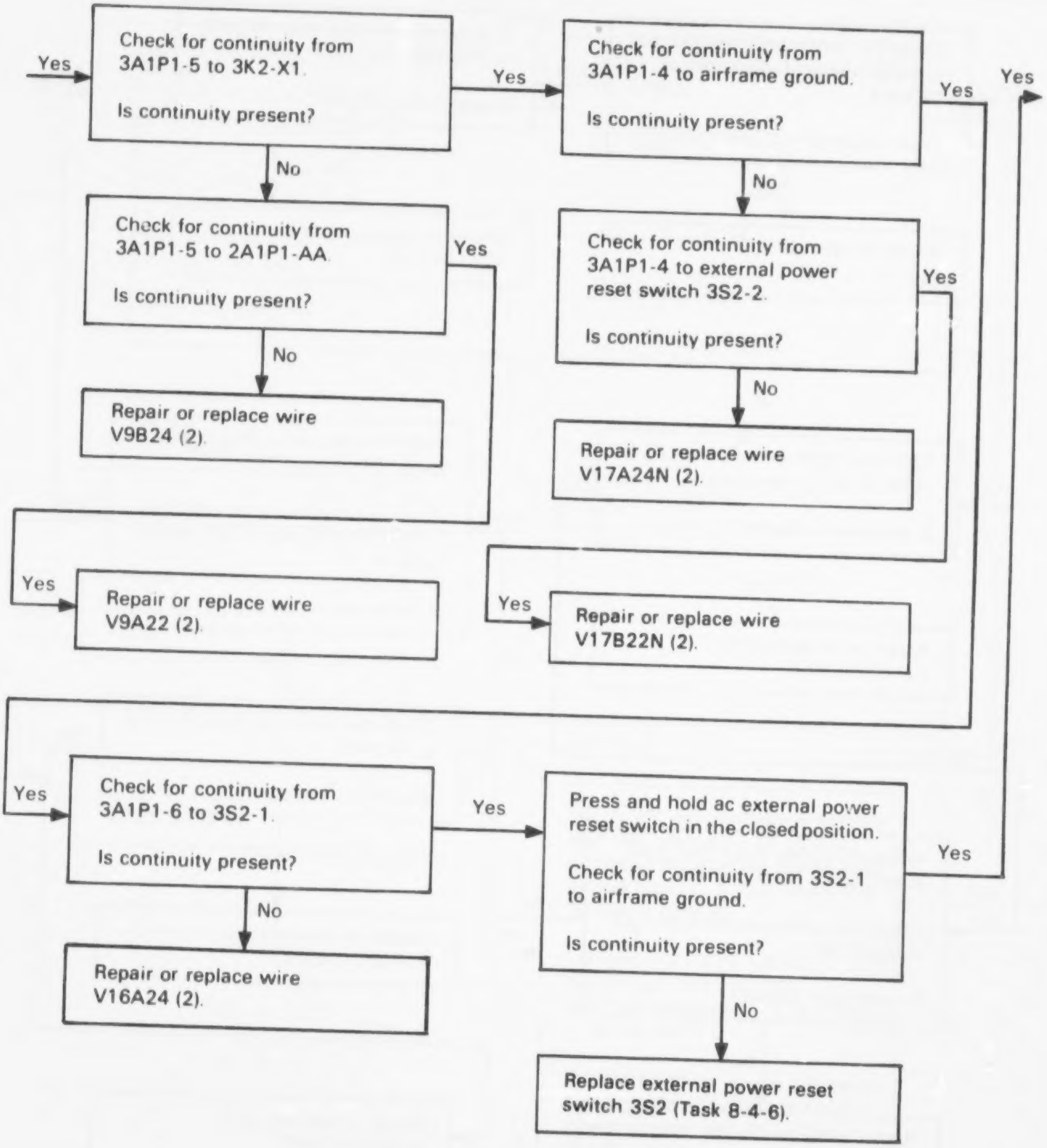
Repair or replace wire X7D22 (1) WHT.

Repair or replace wire X7C22 (1) WHT.

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)


Yes
Check for continuity from 3A1P1-2 to 3K2-B1.
Is continuity present?
Yes
Check for continuity from 3A1P1-3 to 3K2-C1.
Is continuity present?
Yes
No
No
Check for continuity from 3A1P1-2 to 2A1P1-M.
Is continuity present?
Yes
Check for continuity from 3A1P1-3 to 2A1P1-N.
Is continuity present?
Yes
No
No
Repair or replace wire X7D22 (1) BLU.
Repair or replace wire X7D22 (1) ORN.
Yes
Repair or replace wire X7C22 (1) BLU.
Yes
Repair or replace wire X7C22 (1) ORN.

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)



Check for continuity from 3A1P1-5 to 3K2-X1.

Is continuity present?

Check for continuity from 3A1P1-4 to airframe ground.

Is continuity present?

Check for continuity from 3A1P1-5 to 2A1P1-AA.

Is continuity present?

Check for continuity from 3A1P1-4 to external power reset switch 3S2-2.

Is continuity present?

Repair or replace wire V9B24 (2).

Repair or replace wire V17A24N (2).

Repair or replace wire V9A22 (2).

Repair or replace wire V17B22N (2).

Check for continuity from 3A1P1-6 to 3S2-1.

Is continuity present?

Press and hold ac external power reset switch in the closed position.

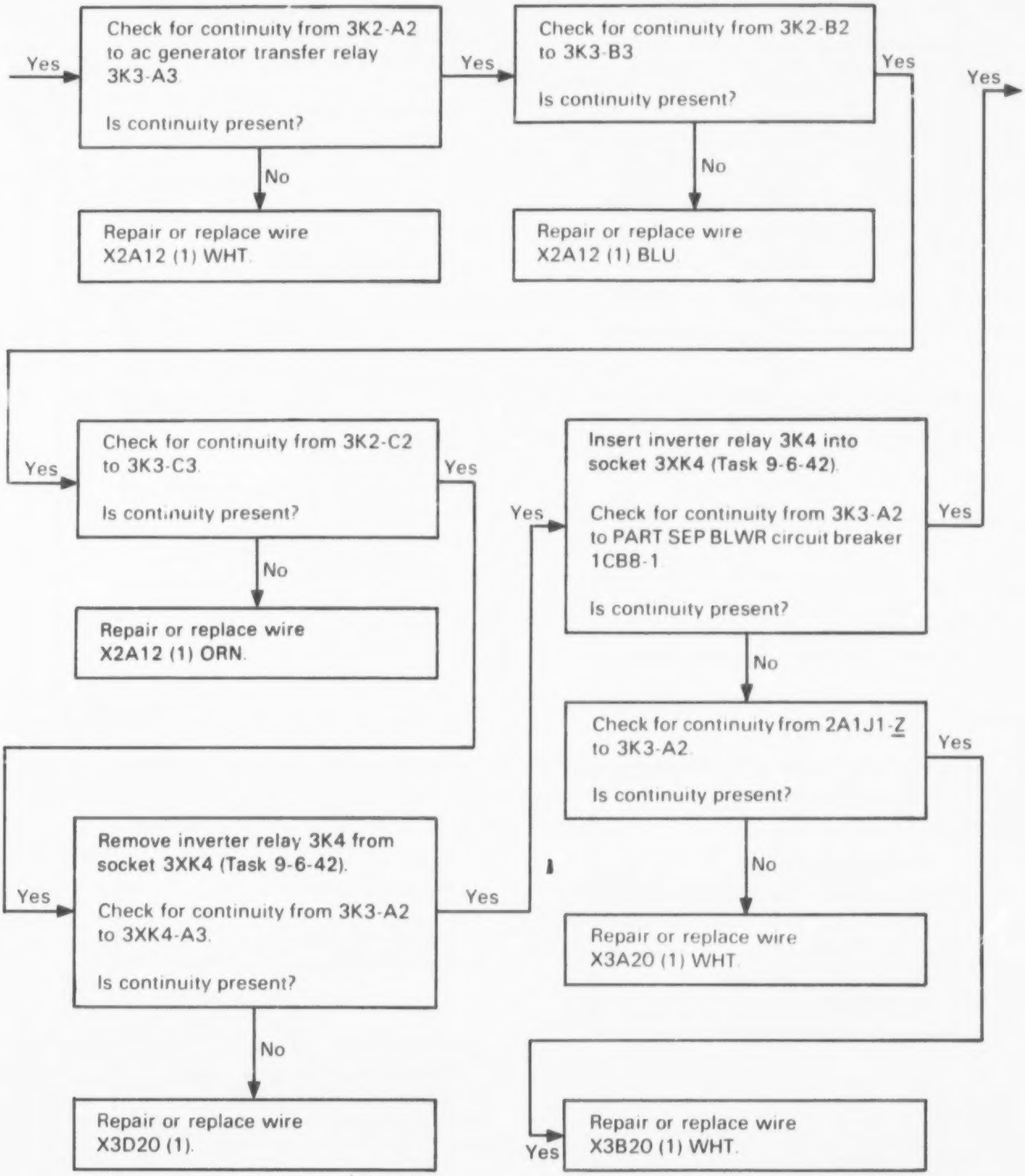
Check for continuity from 3S2-1 to airframe ground.

Is continuity present?

Repair or replace wire V16A24 (2).

Replace external power reset switch 3S2 (Task 8-4-6).

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)



Check for continuity from 3K2-A2 to ac generator transfer relay 3K3-A3.

Is continuity present?

Repair or replace wire X2A12 (1) WHT.

Check for continuity from 3K2-B2 to 3K3-B3.

Is continuity present?

Repair or replace wire X2A12 (1) BLU.

Check for continuity from 3K2-C2 to 3K3-C3.

Is continuity present?

Repair or replace wire X2A12 (1) ORN.

Remove inverter relay 3K4 from socket 3XK4 (Task 9-6-42).

Check for continuity from 3K3-A2 to 3XK4-A3.

Is continuity present?

Repair or replace wire X3D20 (1).

Insert inverter relay 3K4 into socket 3XK4 (Task 9-6-42).

Check for continuity from 3K3-A2 to PART SEP BLWR circuit breaker 1CB8-1.

Is continuity present?

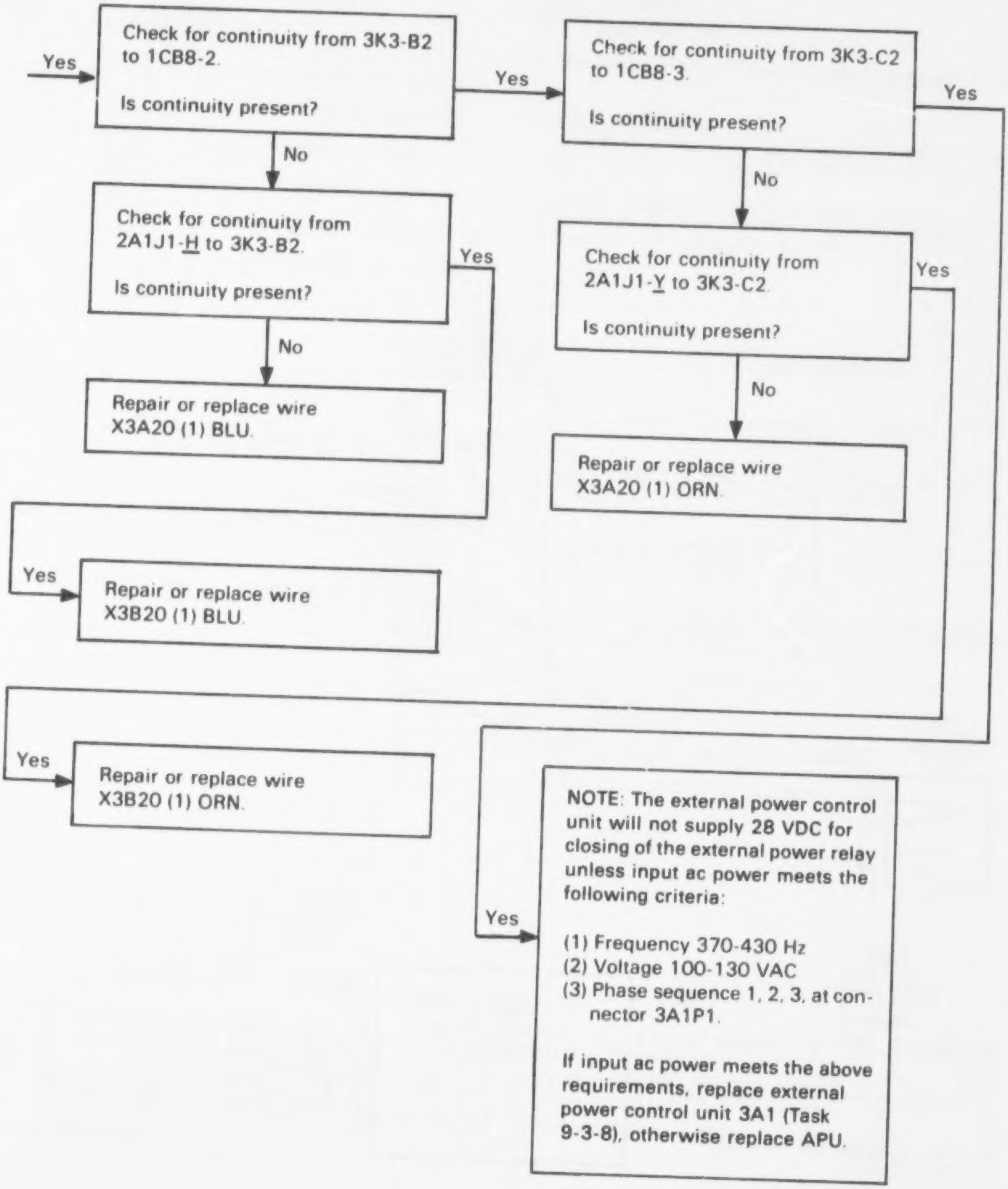
Check for continuity from 2A1J1-Z to 3K3-A2.

Is continuity present?

Repair or replace wire X3A20 (1) WHT.

Repair or replace wire X3B20 (1) WHT.

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)



Check for continuity from 3K3-B2 to 1CB8-2.

Is continuity present?

Check for continuity from 3K3-C2 to 1CB8-3.

Is continuity present?

Check for continuity from 2A1J1-H to 3K3-B2.

Is continuity present?

Check for continuity from 2A1J1-Y to 3K3-C2.

Is continuity present?

Repair or replace wire X3A20 (1) BLU.

Repair or replace wire X3A20 (1) ORN.

Repair or replace wire X3B20 (1) BLU.

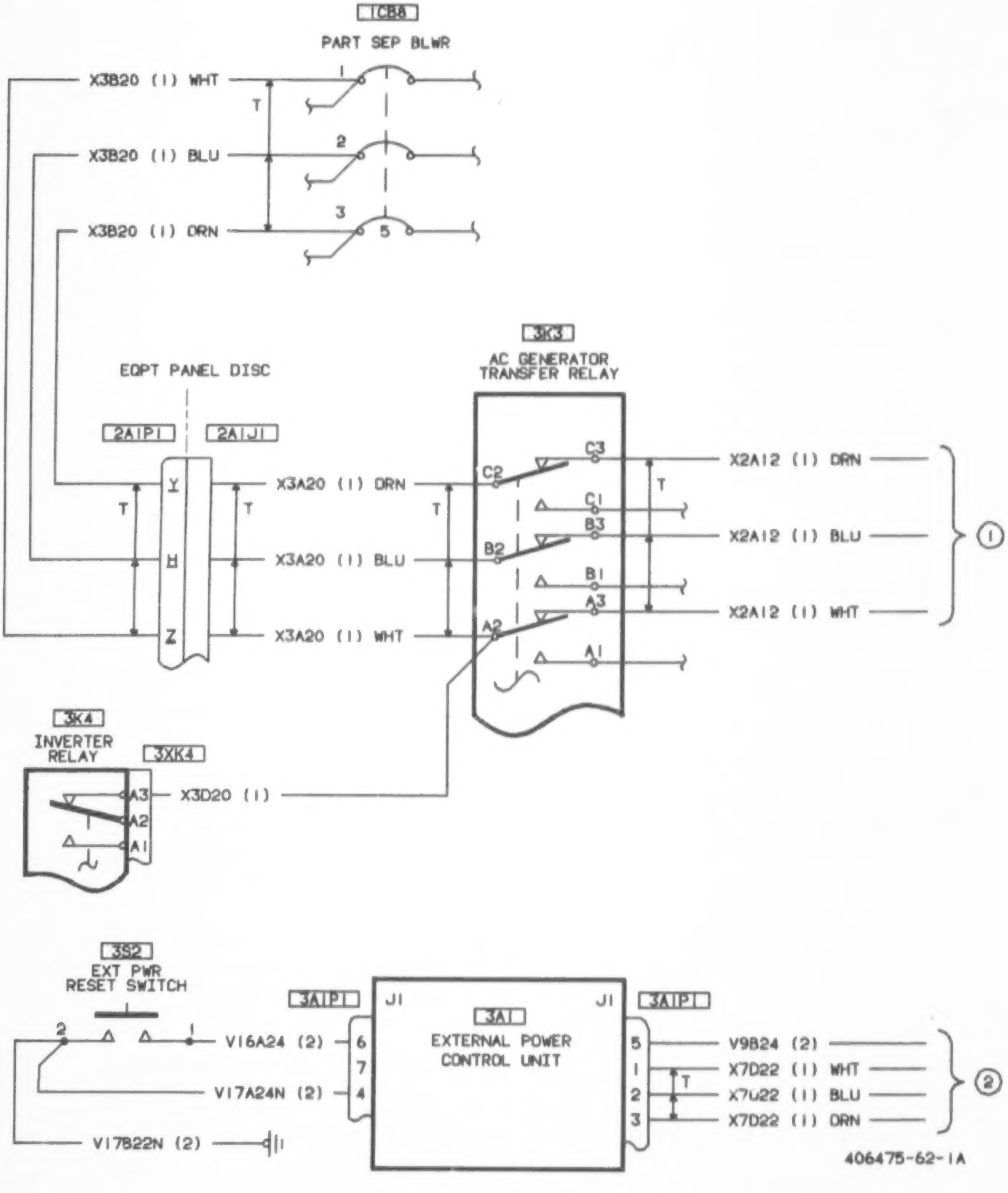
Repair or replace wire X3B20 (1) ORN.

NOTE: The external power control unit will not supply 28 VDC for closing of the external power relay unless input ac power meets the following criteria:

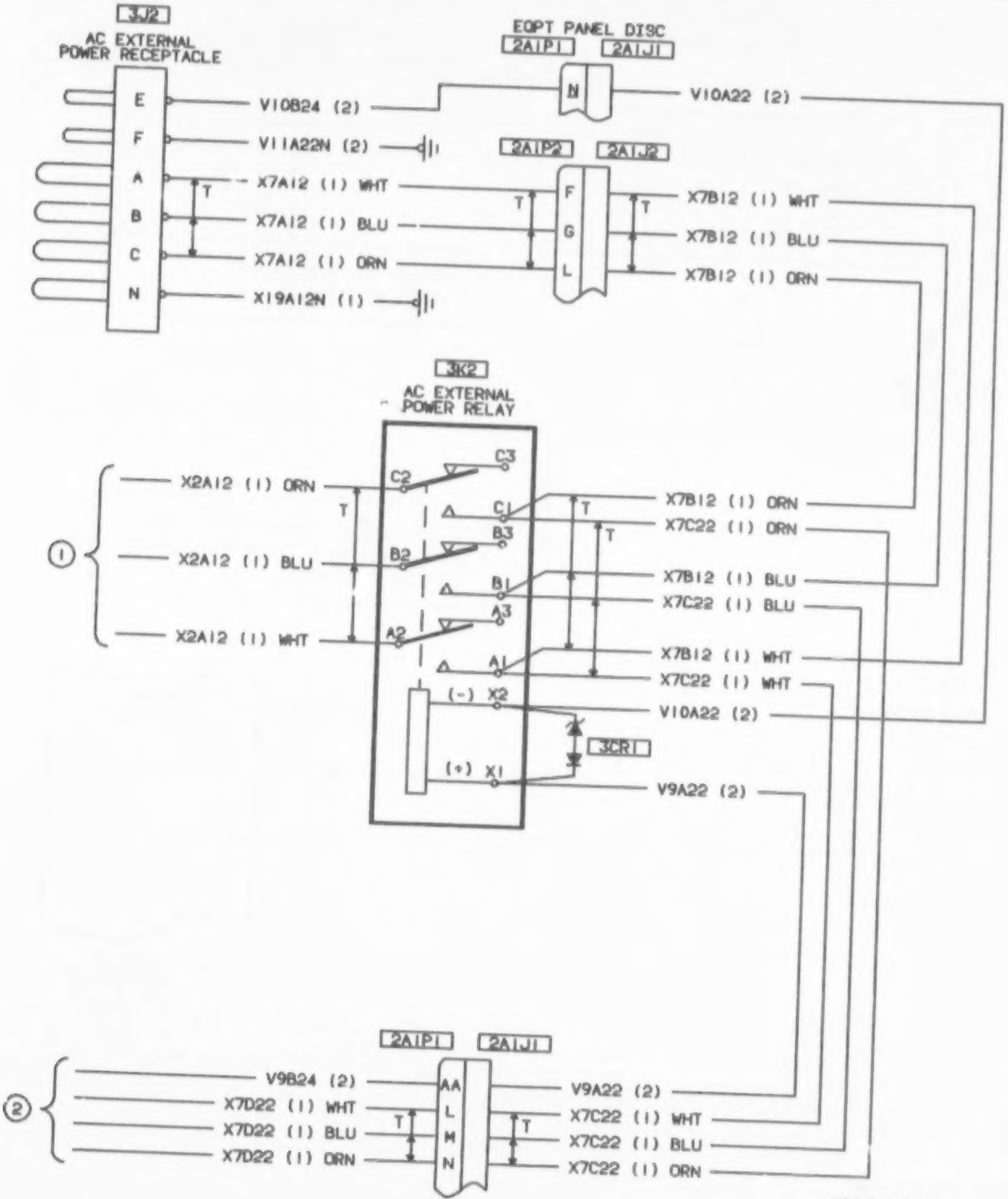
(1) Frequency 370-430 Hz
(2) Voltage 100-130 VAC
(3) Phase sequence 1, 2, 3, at connector 3A1P1.

If input ac power meets the above requirements, replace external power control unit 3A1 (Task 9-3-8), otherwise replace APU.

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)

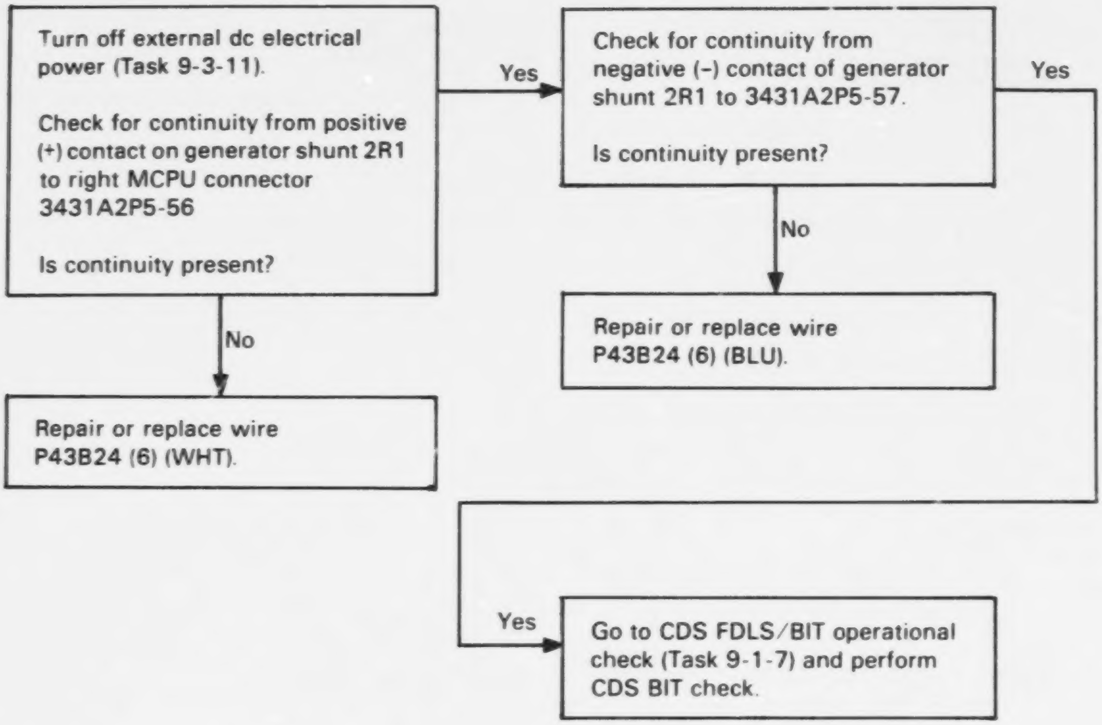

1CB8
PART SEP BLWR
X3B20 (1) WHT
X3B20 (1) BLU
X3B20 (1) ORN
T
1
2
3
5
EQPT PANEL DISC
2A1P1
2A1J1
Y
H
Z
T
X3A20 (1) ORN
X3A20 (1) BLU
X3A20 (1) WHT
3K3
AC GENERATOR TRANSFER RELAY
C3
C2
C1
B3
B2
B1
A3
A2
A1
X2A12 (1) ORN
X2A12 (1) BLU
X2A12 (1) WHT
①
3K4
INVERTER RELAY
3XK4
A3
A2
A1
X3D20 (1)
3S2
EXT PWR RESET SWITCH
2
1
V16A24 (2)
V17A24N (2)
V17B22N (2)
3A1P1
J1
3A1
EXTERNAL POWER CONTROL UNIT
6
7
4
5
1
2
3
V9B24 (2)
X7D22 (1) WHT
X7D22 (1) BLU
X7D22 (1) ORN
②
406475-62-1A

76. MPD DOES NOT INDICATE 115 AND PARTICLE SEPARATOR DOES NOT OPERATE (AC EXTERNAL POWER ON) (CONT)


3J2
AC EXTERNAL POWER RECEPTACLE
E
F
A
B
C
N
V10B24 (2)
V11A22N (2)
X7A12 (1) WHT
X7A12 (1) BLU
X7A12 (1) ORN
X19A12N (1)
T
EQPT PANEL DISC
2A1P1
2A1J1
N
V10A22 (2)
2A1P2
2A1J2
F
G
L
X7B12 (1) WHT
X7B12 (1) BLU
X7B12 (1) ORN
3K2
AC EXTERNAL POWER RELAY
①
X2A12 (1) ORN
X2A12 (1) BLU
X2A12 (1) WHT
C2
C3
C1
B2
B3
B1
A2
A3
A1
(-) X2
(+) X1
X7B12 (1) ORN
X7C22 (1) ORN
X7B12 (1) BLU
X7C22 (1) BLU
X7B12 (1) WHT
X7C22 (1) WHT
V10A22 (2)
V9A22 (2)
3CR1
②
V9B24 (2)
X7D22 (1) WHT
X7D22 (1) BLU
X7D22 (1) ORN
2A1P1
2A1J1
AA
L
M
N
V9A22 (2)
X7C22 (1) WHT
X7C22 (1) BLU
X7C22 (1) ORN

406475-62-2

77. STARTER-GENERATOR PERCENT LOAD DOES NOT APPEAR ON MPD



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from positive (+) contact on generator shunt 2R1 to right MCPU connector 3431A2P5-56

Is continuity present?

Check for continuity from negative (-) contact of generator shunt 2R1 to 3431A2P5-57.

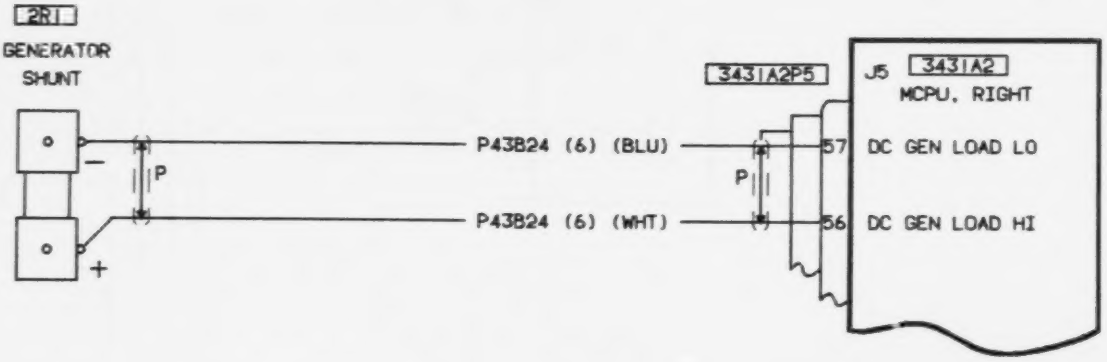
Is continuity present?

Repair or replace wire P43B24 (6) (BLU).

Repair or replace wire P43B24 (6) (WHT).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

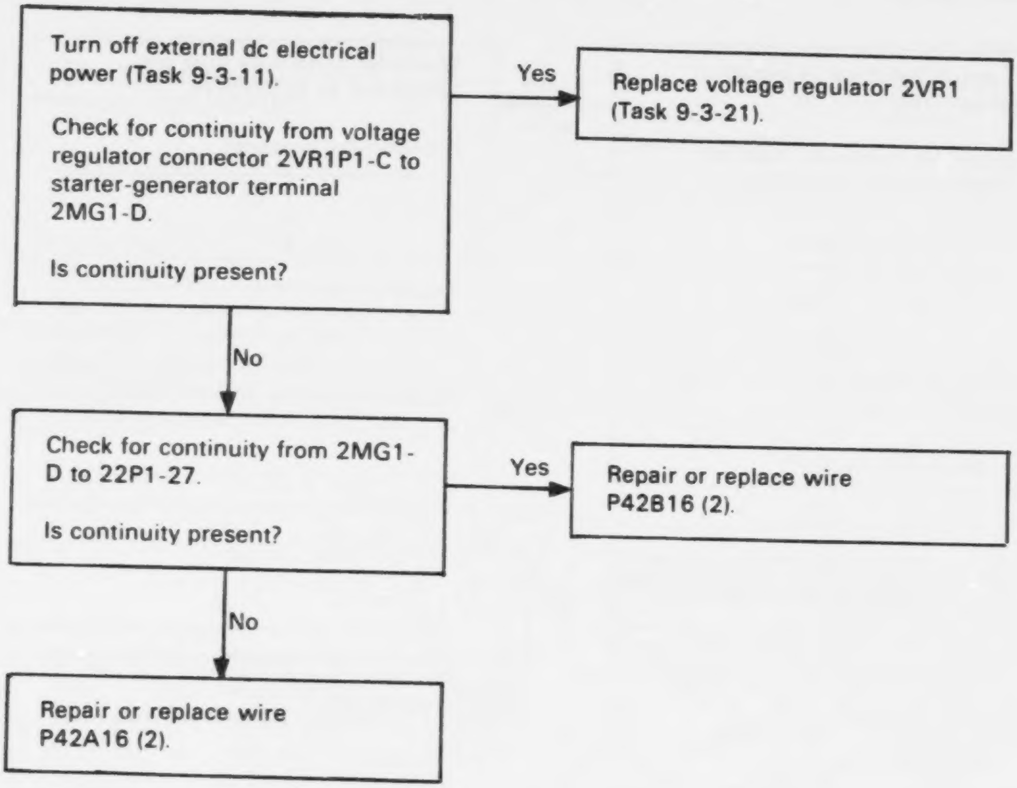
Yes
Yes
No
No
Yes



2R1
GENERATOR SHUNT
−
+
P
P43B24 (6) (BLU)
P43B24 (6) (WHT)
P
3431A2P5
J5
3431A2
MCPU, RIGHT
57
56
DC GEN LOAD LO
DC GEN LOAD HI

406475-74A

78. DC GENERATOR DOES NOT GO OFF LINE (RPM BELOW FLIGHT IDLE)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from voltage regulator connector 2VR1P1-C to starter-generator terminal 2MG1-D.

Is continuity present?

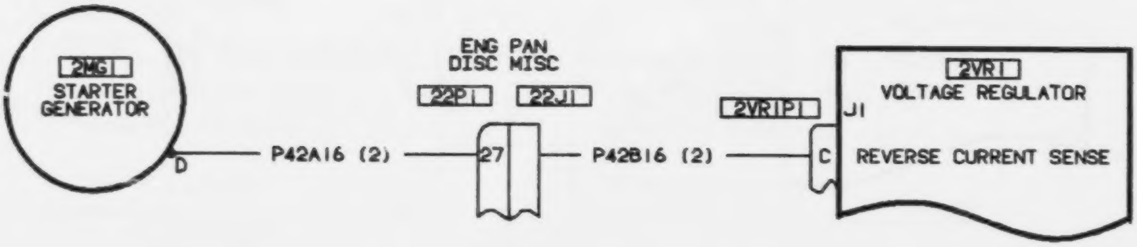
Yes: Replace voltage regulator 2VR1 (Task 9-3-21).

No: Check for continuity from 2MG1-D to 22P1-27.

Is continuity present?

Yes: Repair or replace wire P42B16 (2).

No: Repair or replace wire P42A16 (2).


2MG1
STARTER GENERATOR
D
P42A16 (2)
ENG DISC
PAN MISC
22P1
22J1
27
P42B16 (2)
2VR1P1
J1
C
2VR1
VOLTAGE REGULATOR
REVERSE CURRENT SENSE

406475-75A

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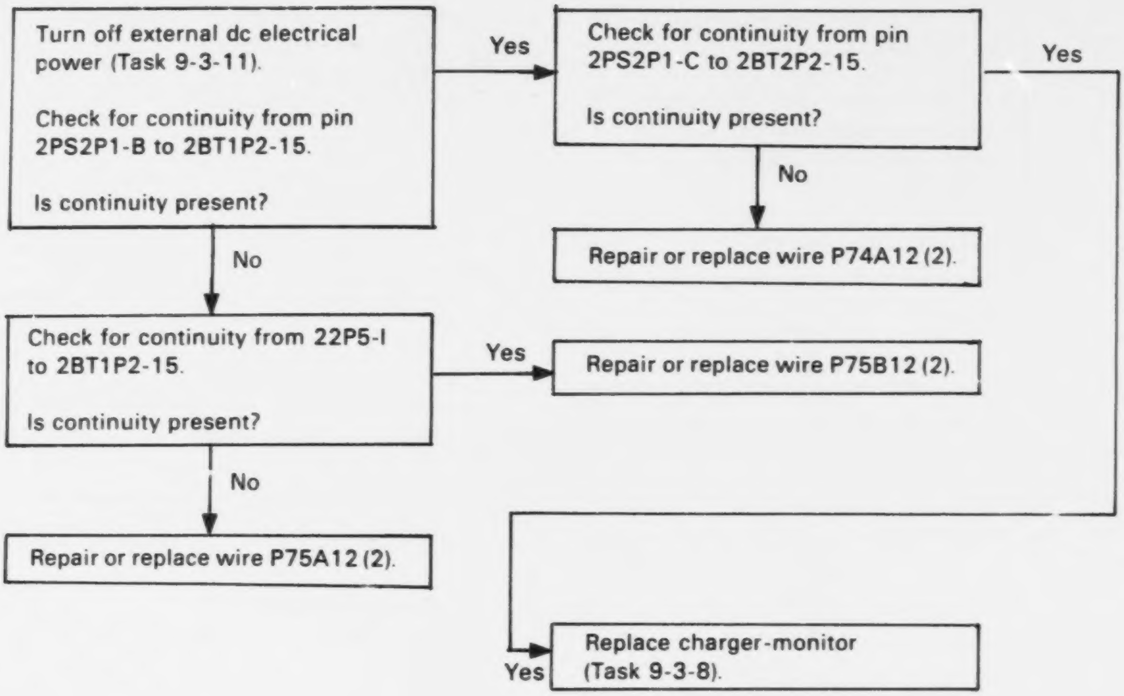
79. BATTERY VOLTAGE DOES NOT INCREASE AT 2K2-A1 OR 2K2-A2 (DURING CHARGER MONITOR OPERATIONAL CHECK)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2PS2P1-B to 2BT1P2-15.

Is continuity present?

Check for continuity from pin 2PS2P1-C to 2BT2P2-15.

Is continuity present?

Repair or replace wire P74A12 (2).

Check for continuity from 22P5-I to 2BT1P2-15.

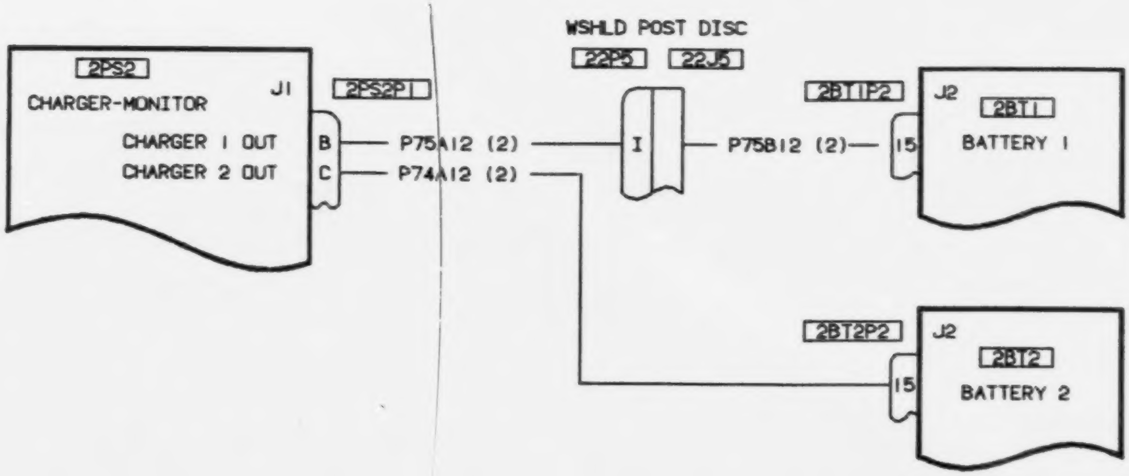
Is continuity present?

Repair or replace wire P75B12 (2).

Repair or replace wire P75A12 (2).

Replace charger-monitor (Task 9-3-8).

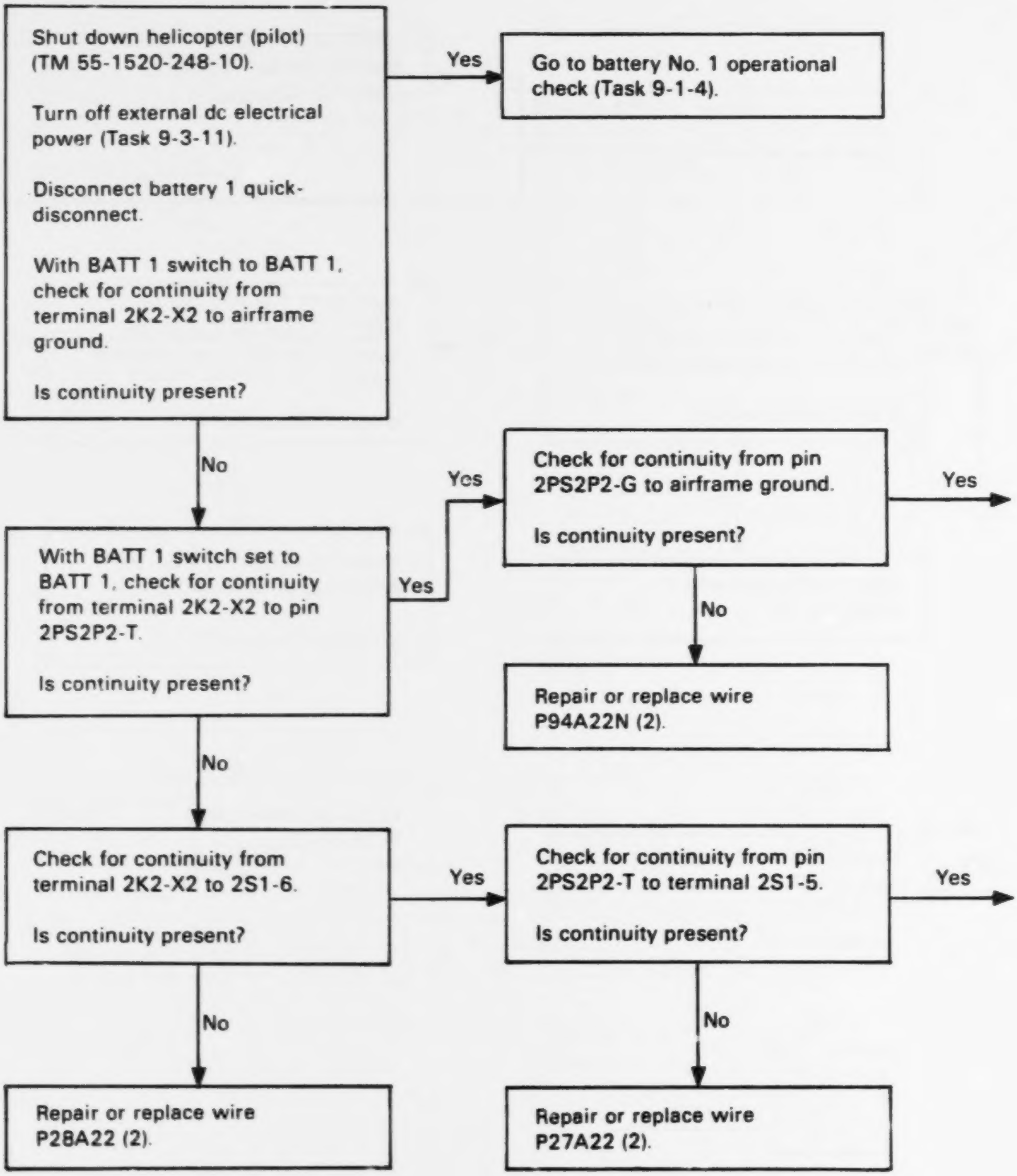
Yes
Yes
No
No
Yes
No
Yes



WSHLD POST DISC
22P5
22J5
2PS2
CHARGER-MONITOR
J1
2PS2P1
CHARGER 1 OUT
CHARGER 2 OUT
B
C
P75A12 (2)
P74A12 (2)
I
P75B12 (2)
15
2BT1P2
J2
2BT1
BATTERY 1
2BT2P2
J2
2BT2
15
BATTERY 2

406475-79A

80. BATTERY 1 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK)



Shut down helicopter (pilot) (TM 55-1520-248-10).

Turn off external dc electrical power (Task 9-3-11).

Disconnect battery 1 quick-disconnect.

With BATT 1 switch to BATT 1, check for continuity from terminal 2K2-X2 to airframe ground.

Is continuity present?

Go to battery No. 1 operational check (Task 9-1-4).

With BATT 1 switch set to BATT 1, check for continuity from terminal 2K2-X2 to pin 2PS2P2-T.

Is continuity present?

Check for continuity from pin 2PS2P2-G to airframe ground.

Is continuity present?

Repair or replace wire P94A22N (2).

Check for continuity from terminal 2K2-X2 to 2S1-6.

Is continuity present?

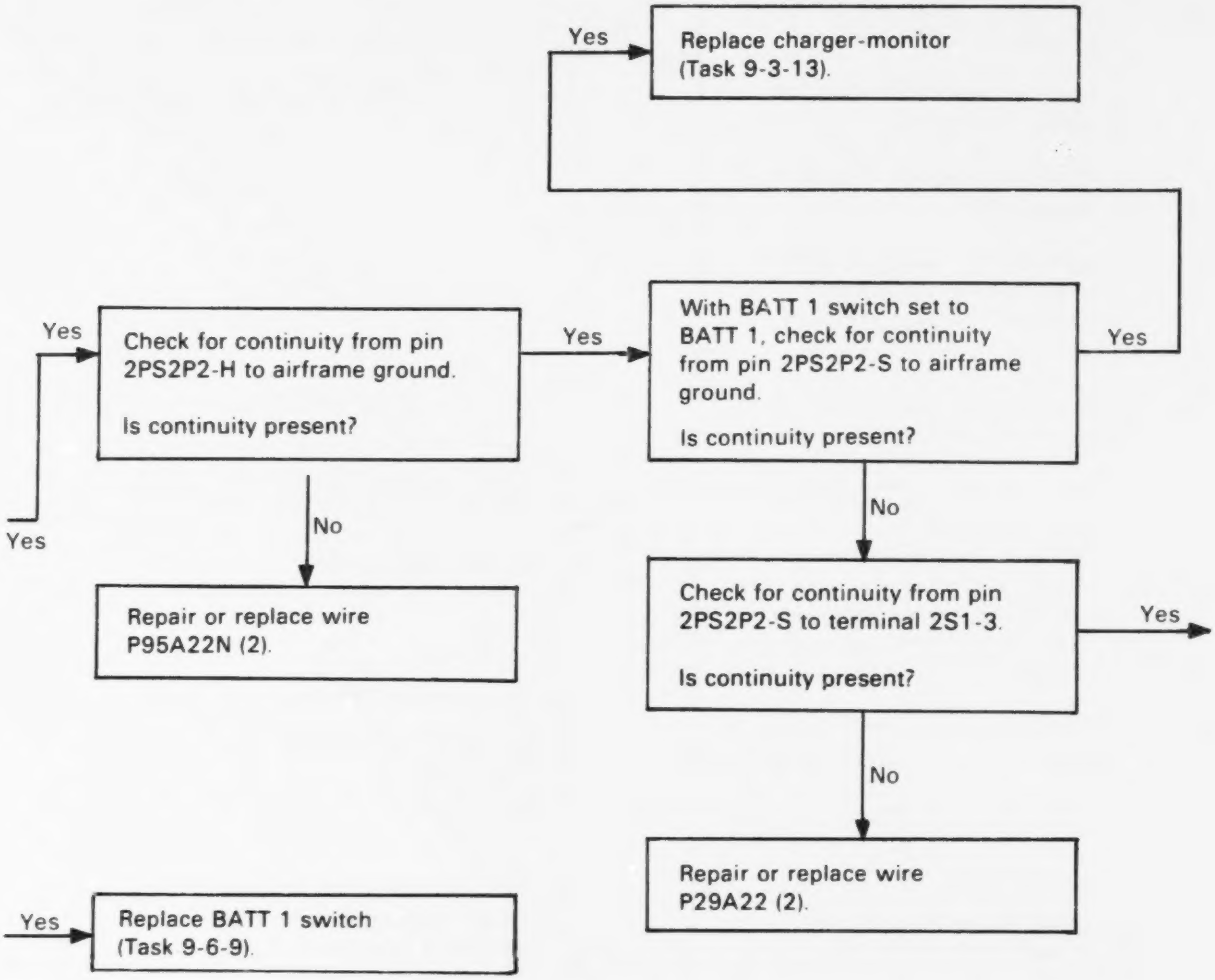
Check for continuity from pin 2PS2P2-T to terminal 2S1-5.

Is continuity present?

Repair or replace wire P28A22 (2).

Repair or replace wire P27A22 (2).

80. BATTERY 1 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



Replace charger-monitor (Task 9-3-13).

Check for continuity from pin 2PS2P2-H to airframe ground.

Is continuity present?

With BATT 1 switch set to BATT 1, check for continuity from pin 2PS2P2-S to airframe ground.

Is continuity present?

Repair or replace wire P95A22N (2).

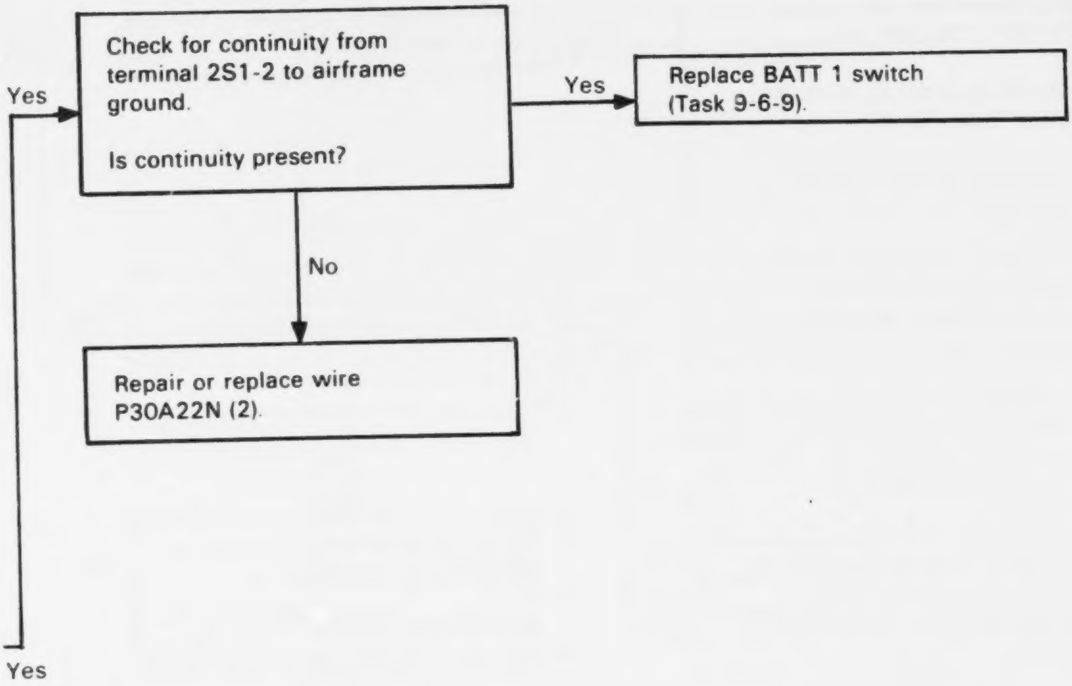
Check for continuity from pin 2PS2P2-S to terminal 2S1-3.

Is continuity present?

Repair or replace wire P29A22 (2).

Replace BATT 1 switch (Task 9-6-9).

80. BATTERY 1 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



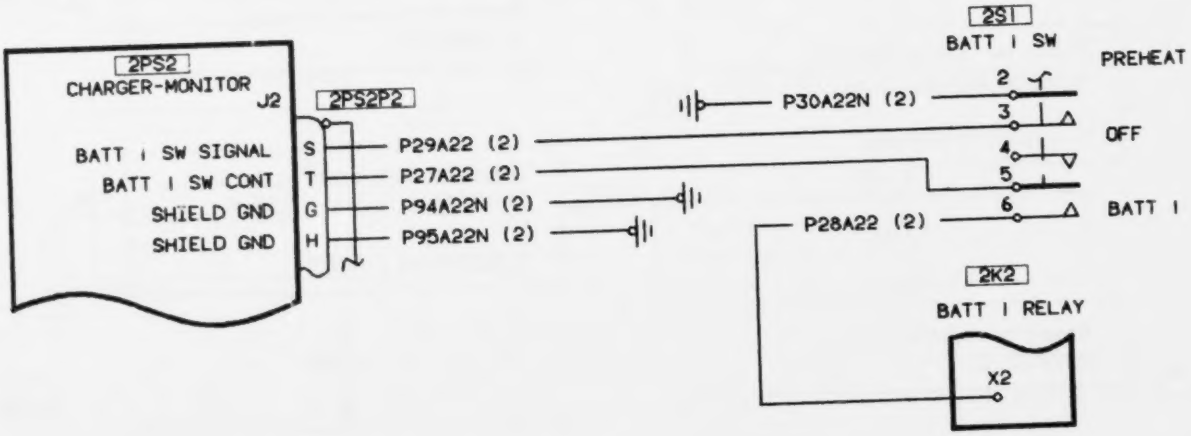
Check for continuity from terminal 2S1-2 to airframe ground.

Is continuity present?

Replace BATT 1 switch (Task 9-6-9).

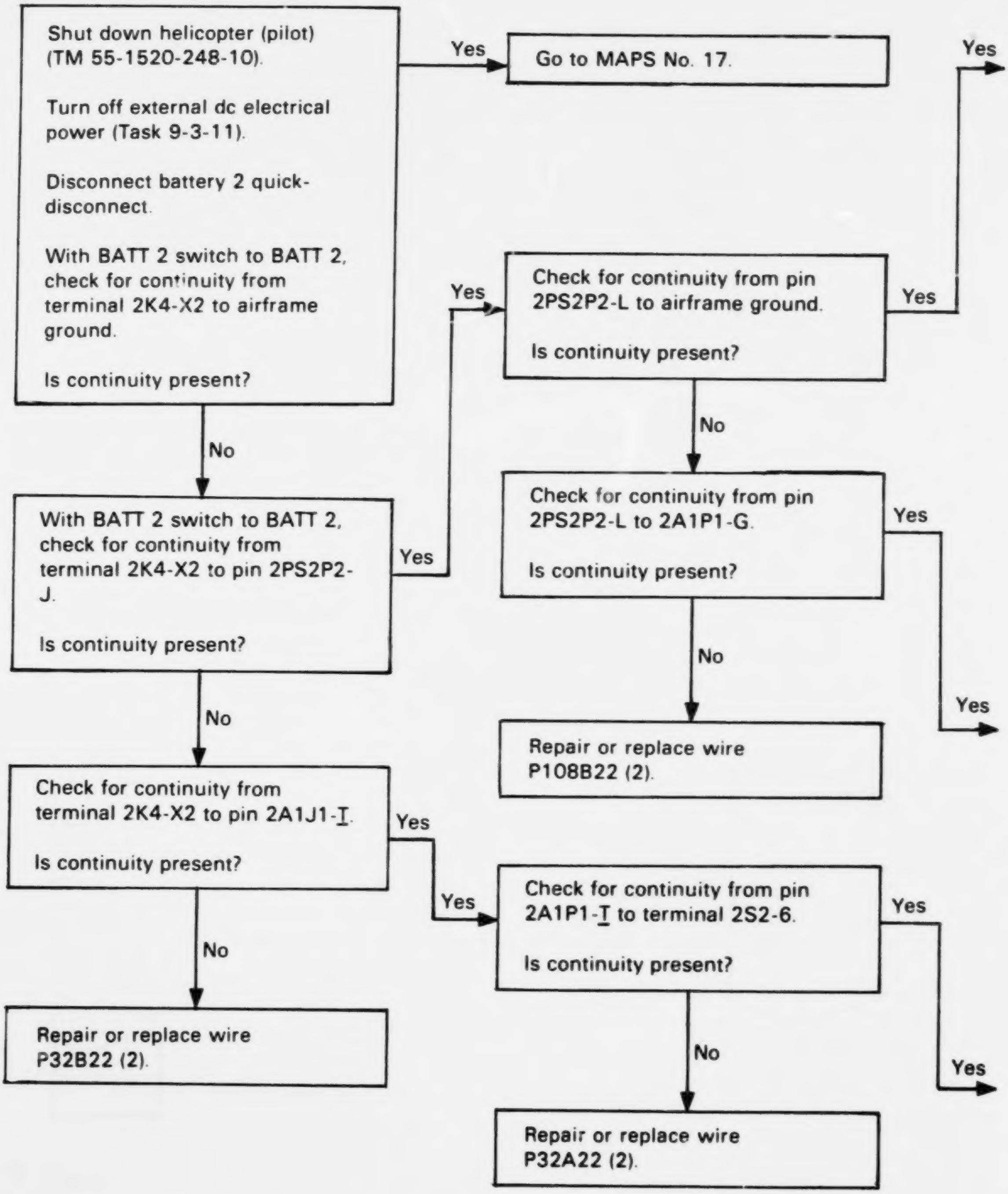
Repair or replace wire P30A22N (2).

Yes
Yes
No
Yes


2PS2
CHARGER-MONITOR
J2
BATT I SW SIGNAL
BATT I SW CONT
SHIELD GND
SHIELD GND
S
T
G
H
2PS2P2
P29A22 (2)
P27A22 (2)
P94A22N (2)
P95A22N (2)
P30A22N (2)
P28A22 (2)
2S1
BATT I SW
2
3
4
5
6
PREHEAT
OFF
BATT I
2K2
BATT I RELAY
X2

406475-82B

81. BATTERY 2 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK)



Shut down helicopter (pilot) (TM 55-1520-248-10).

Turn off external dc electrical power (Task 9-3-11).

Disconnect battery 2 quick-disconnect.

With BATT 2 switch to BATT 2, check for continuity from terminal 2K4-X2 to airframe ground.

Is continuity present?

Go to MAPS No. 17.

With BATT 2 switch to BATT 2, check for continuity from terminal 2K4-X2 to pin 2PS2P2-J.

Is continuity present?

Check for continuity from pin 2PS2P2-L to airframe ground.

Is continuity present?

Check for continuity from pin 2PS2P2-L to 2A1P1-G.

Is continuity present?

Repair or replace wire P108B22 (2).

Check for continuity from terminal 2K4-X2 to pin 2A1J1-I.

Is continuity present?

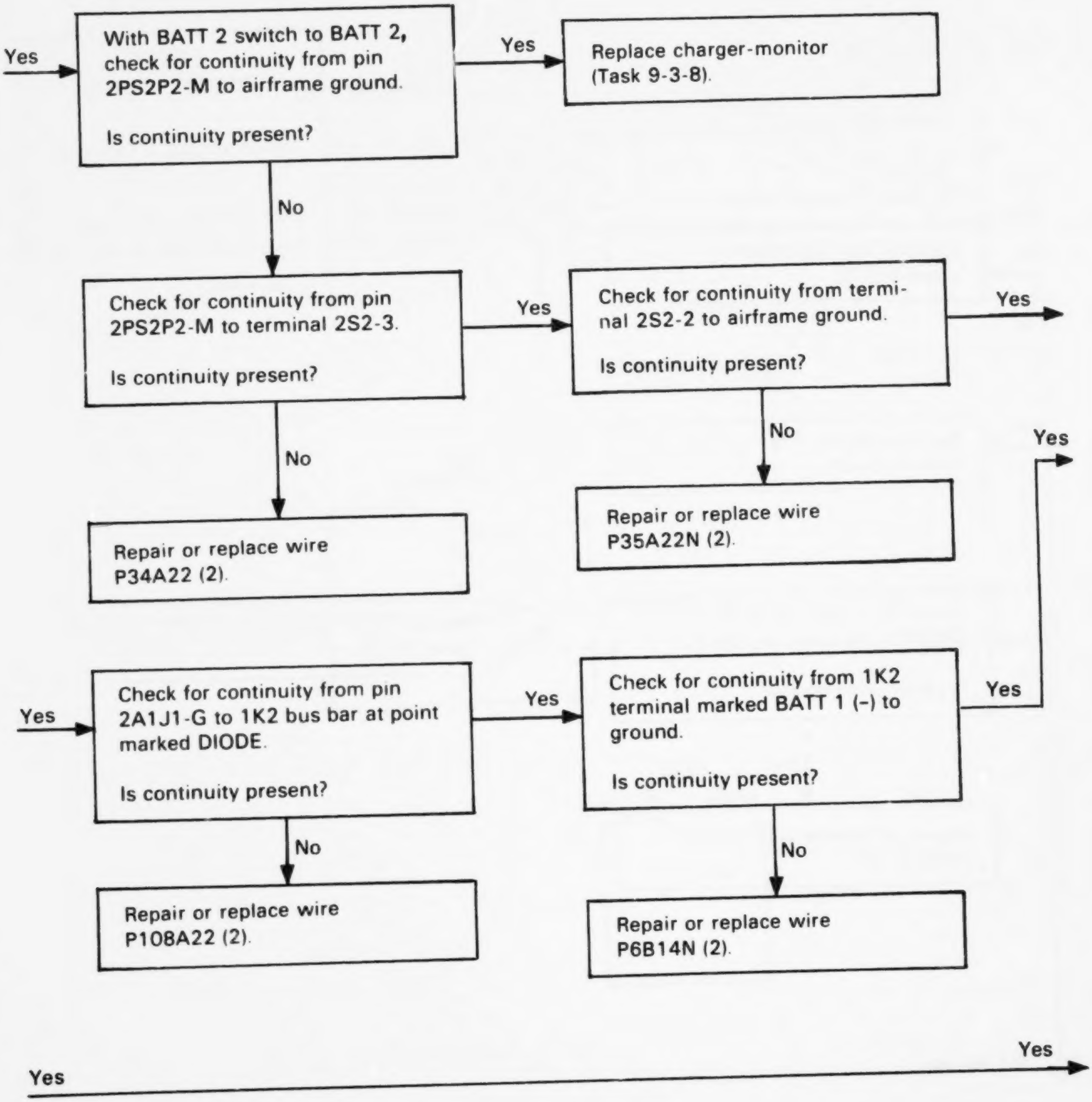
Repair or replace wire P32B22 (2).

Check for continuity from pin 2A1P1-I to terminal 2S2-6.

Is continuity present?

Repair or replace wire P32A22 (2).

81. BATTERY 2 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



With BATT 2 switch to BATT 2, check for continuity from pin 2PS2P2-M to airframe ground.

Is continuity present?

Replace charger-monitor (Task 9-3-8).

Check for continuity from pin 2PS2P2-M to terminal 2S2-3.

Is continuity present?

Check for continuity from terminal 2S2-2 to airframe ground.

Is continuity present?

Repair or replace wire P34A22 (2).

Repair or replace wire P35A22N (2).

Check for continuity from pin 2A1J1-G to 1K2 bus bar at point marked DIODE.

Is continuity present?

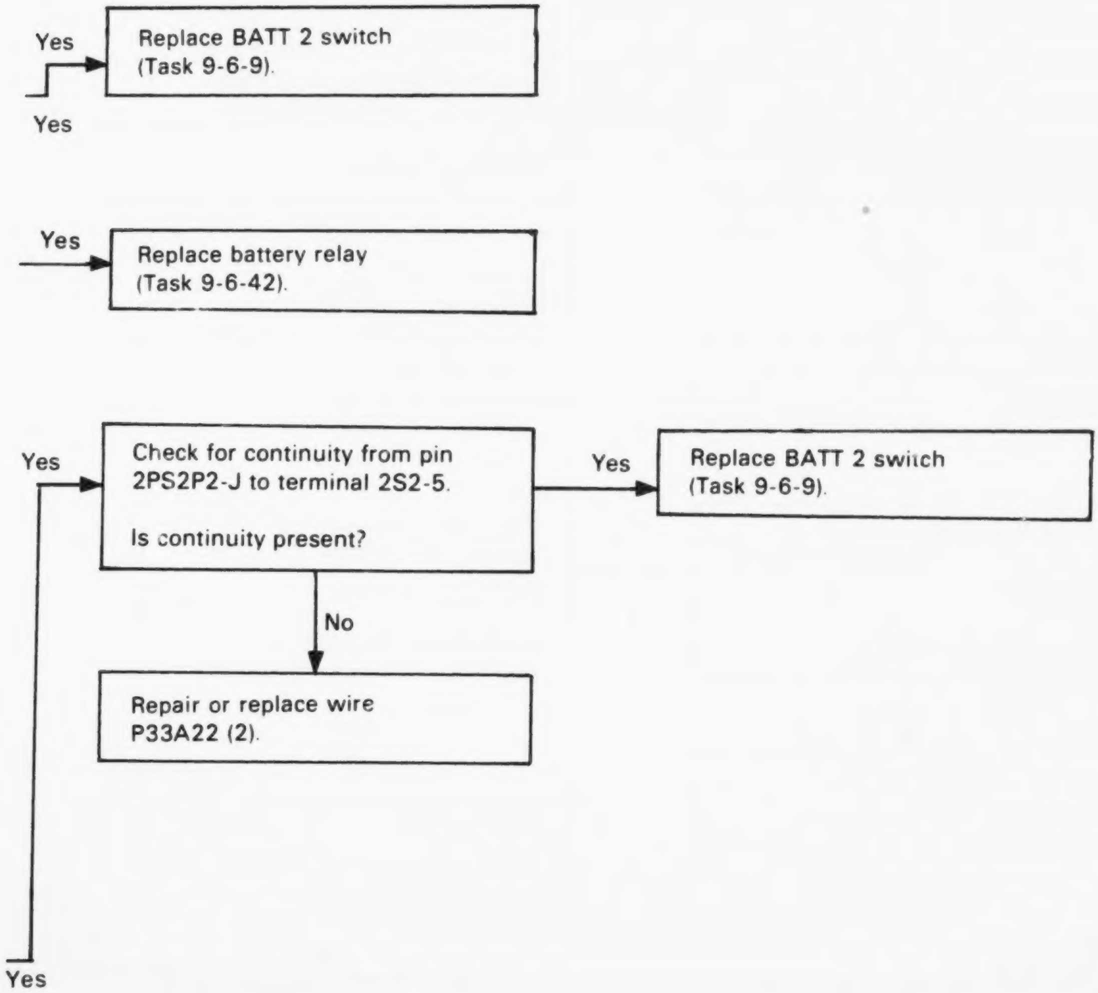
Check for continuity from 1K2 terminal marked BATT 1 (–) to ground.

Is continuity present?

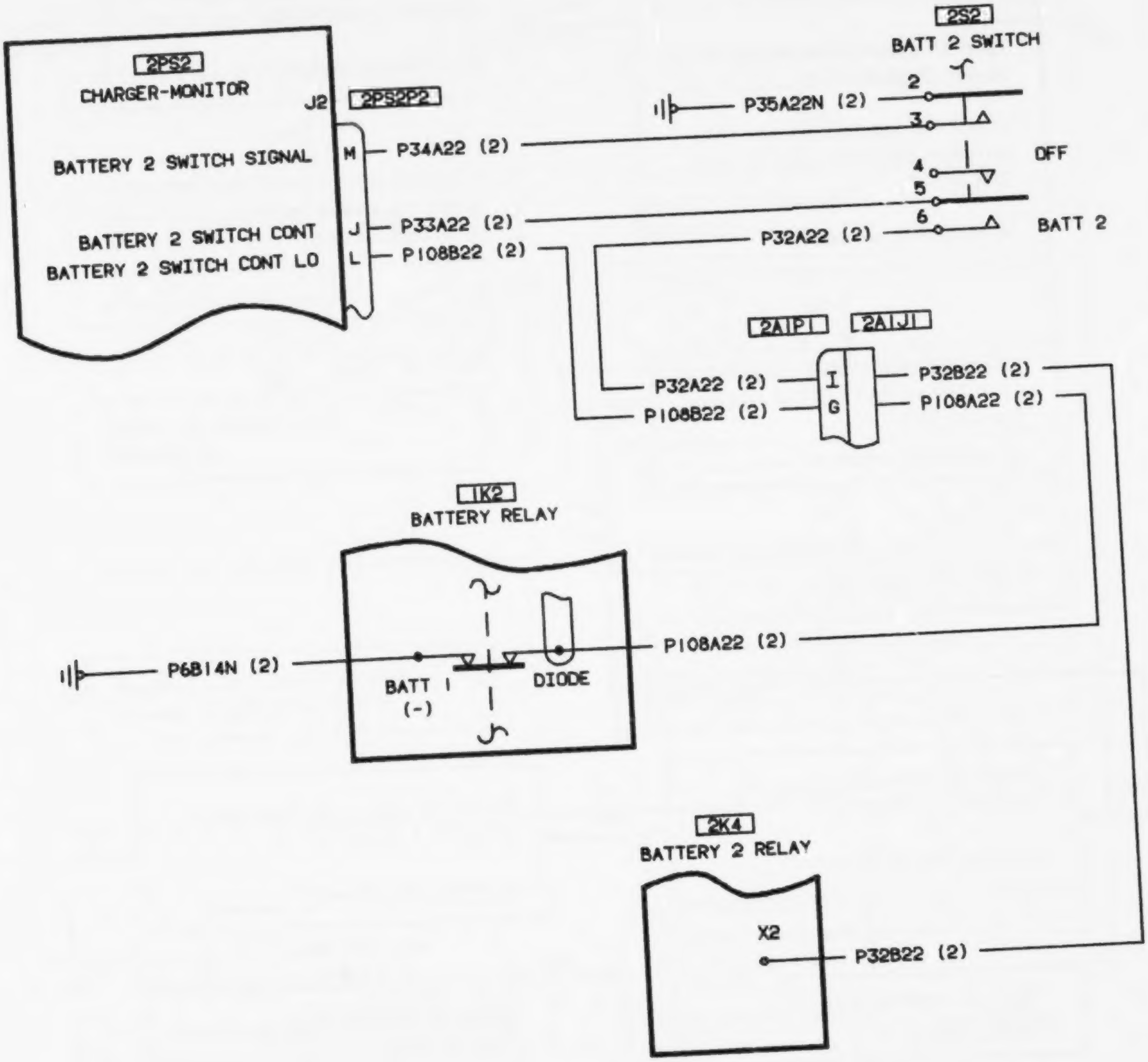
Repair or replace wire P108A22 (2).

Repair or replace wire P6B14N (2).

81. BATTERY 2 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)

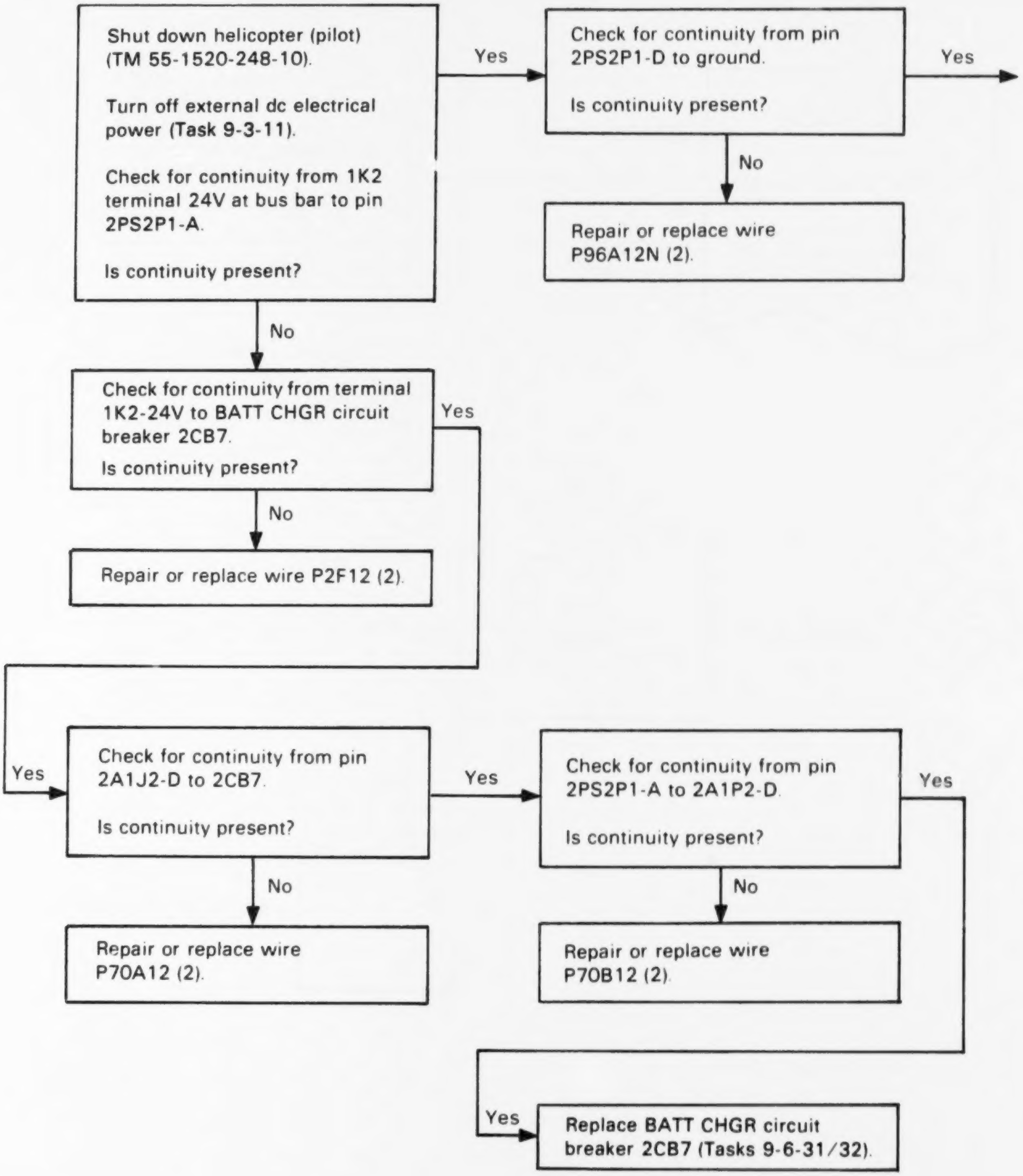

Yes
Replace BATT 2 switch (Task 9-6-9).
Yes
Yes
Replace battery relay (Task 9-6-42).
Yes
Check for continuity from pin 2PS2P2-J to terminal 2S2-5.
Is continuity present?
Yes
Replace BATT 2 switch (Task 9-6-9).
No
Repair or replace wire P33A22 (2).
Yes

81. BATTERY 2 WILL NOT STAY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)


2PS2
CHARGER-MONITOR
J2
2PS2P2
BATTERY 2 SWITCH SIGNAL
M
P34A22 (2)
BATTERY 2 SWITCH CONT
J
P33A22 (2)
BATTERY 2 SWITCH CONT LO
L
P108B22 (2)
2S2
BATT 2 SWITCH
P35A22N (2)
2
3
4
5
6
OFF
BATT 2
P32A22 (2)
2A1P1
2A1J1
P32A22 (2)
I
P108B22 (2)
G
P32B22 (2)
P108A22 (2)
1K2
BATTERY RELAY
P6B14N (2)
BATT 1
(-)
DIODE
P108A22 (2)
2K4
BATTERY 2 RELAY
X2
P32B22 (2)

406475-77A

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK)



Shut down helicopter (pilot) (TM 55-1520-248-10).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 1K2 terminal 24V at bus bar to pin 2PS2P1-A.

Is continuity present?

Check for continuity from pin 2PS2P1-D to ground.

Is continuity present?

Repair or replace wire P96A12N (2).

Check for continuity from terminal 1K2-24V to BATT CHGR circuit breaker 2CB7.

Is continuity present?

Repair or replace wire P2F12 (2).

Check for continuity from pin 2A1J2-D to 2CB7.

Is continuity present?

Repair or replace wire P70A12 (2).

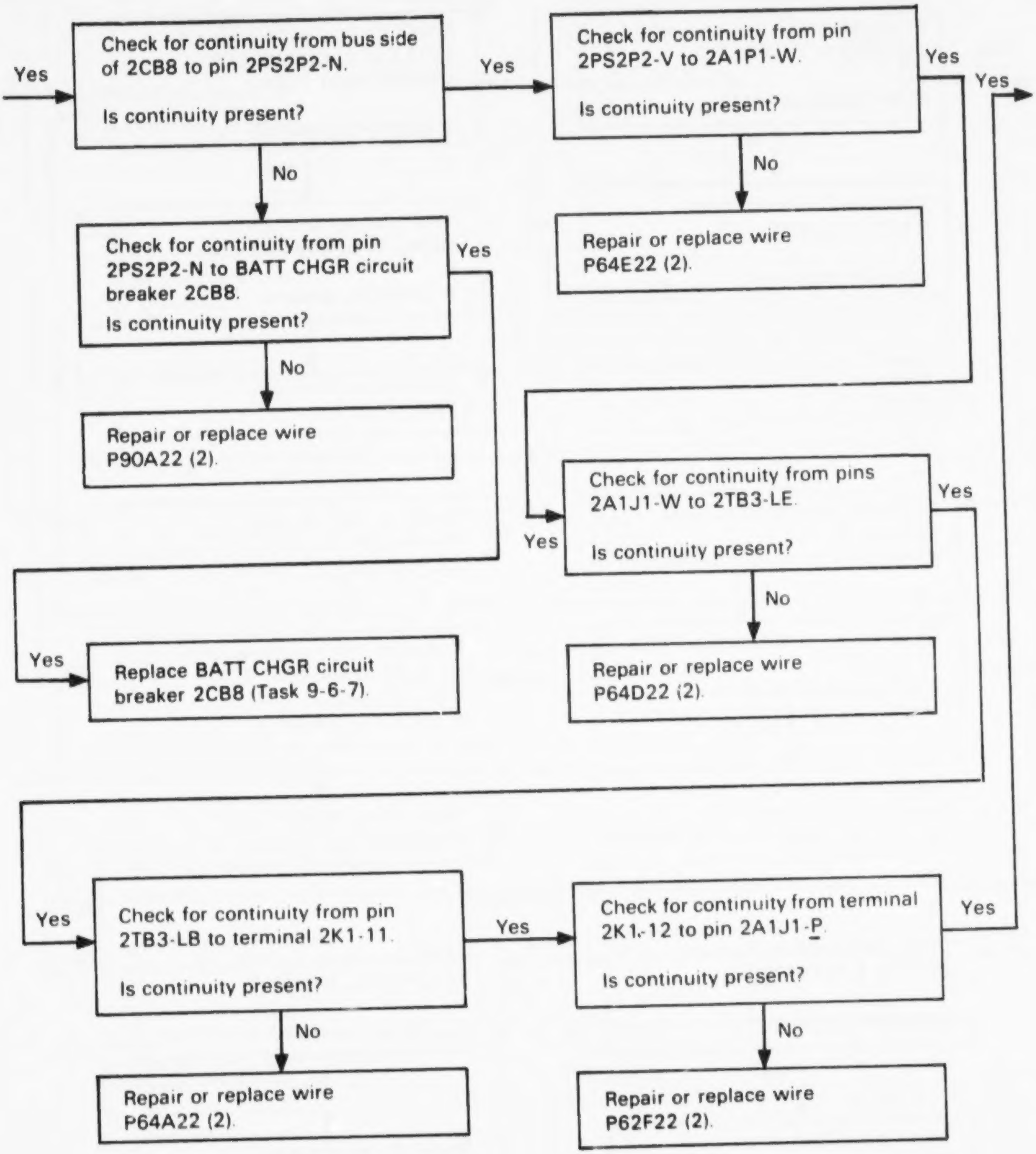
Check for continuity from pin 2PS2P1-A to 2A1P2-D.

Is continuity present?

Repair or replace wire P70B12 (2).

Replace BATT CHGR circuit breaker 2CB7 (Tasks 9-6-31/32).

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



Check for continuity from bus side of 2CB8 to pin 2PS2P2-N.

Is continuity present?

Check for continuity from pin 2PS2P2-V to 2A1P1-W.

Is continuity present?

Check for continuity from pin 2PS2P2-N to BATT CHGR circuit breaker 2CB8.

Is continuity present?

Repair or replace wire P64E22 (2).

Repair or replace wire P90A22 (2).

Check for continuity from pins 2A1J1-W to 2TB3-LE.

Is continuity present?

Replace BATT CHGR circuit breaker 2CB8 (Task 9-6-7).

Repair or replace wire P64D22 (2).

Check for continuity from pin 2TB3-LB to terminal 2K1-11.

Is continuity present?

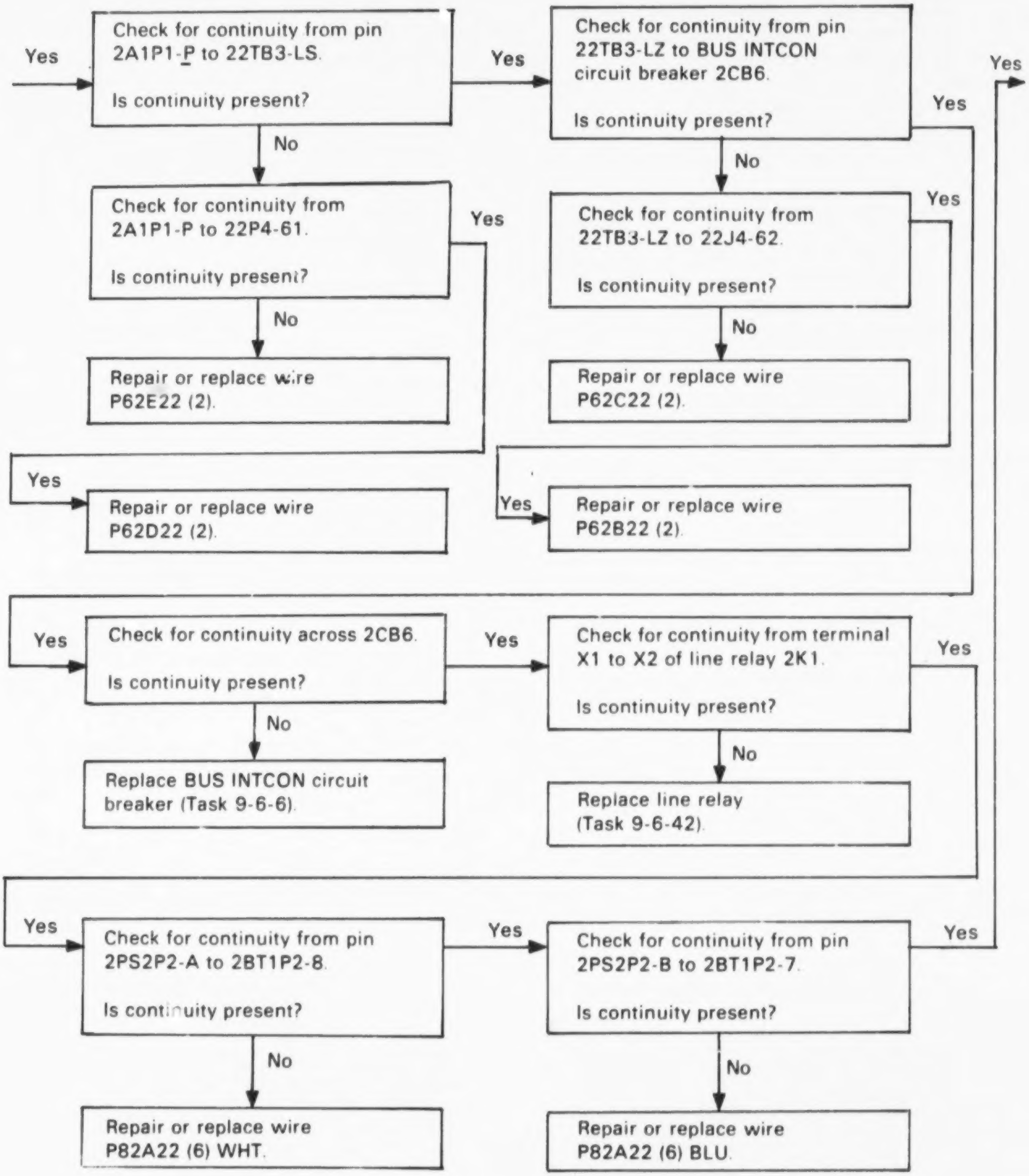
Check for continuity from terminal 2K1-12 to pin 2A1J1-P.

Is continuity present?

Repair or replace wire P64A22 (2).

Repair or replace wire P62F22 (2).

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



Check for continuity from pin 2A1P1-P to 22TB3-LS.

Is continuity present?

Check for continuity from 2A1P1-P to 22P4-61.

Is continuity present?

Repair or replace wire P62E22 (2).

Repair or replace wire P62D22 (2).

Check for continuity from pin 22TB3-LZ to BUS INTCON circuit breaker 2CB6.

Is continuity present?

Check for continuity from 22TB3-LZ to 22J4-62.

Is continuity present?

Repair or replace wire P62C22 (2).

Repair or replace wire P62B22 (2).

Check for continuity across 2CB6.

Is continuity present?

Replace BUS INTCON circuit breaker (Task 9-6-6).

Check for continuity from terminal X1 to X2 of line relay 2K1.

Is continuity present?

Replace line relay (Task 9-6-42).

Check for continuity from pin 2PS2P2-A to 2BT1P2-8.

Is continuity present?

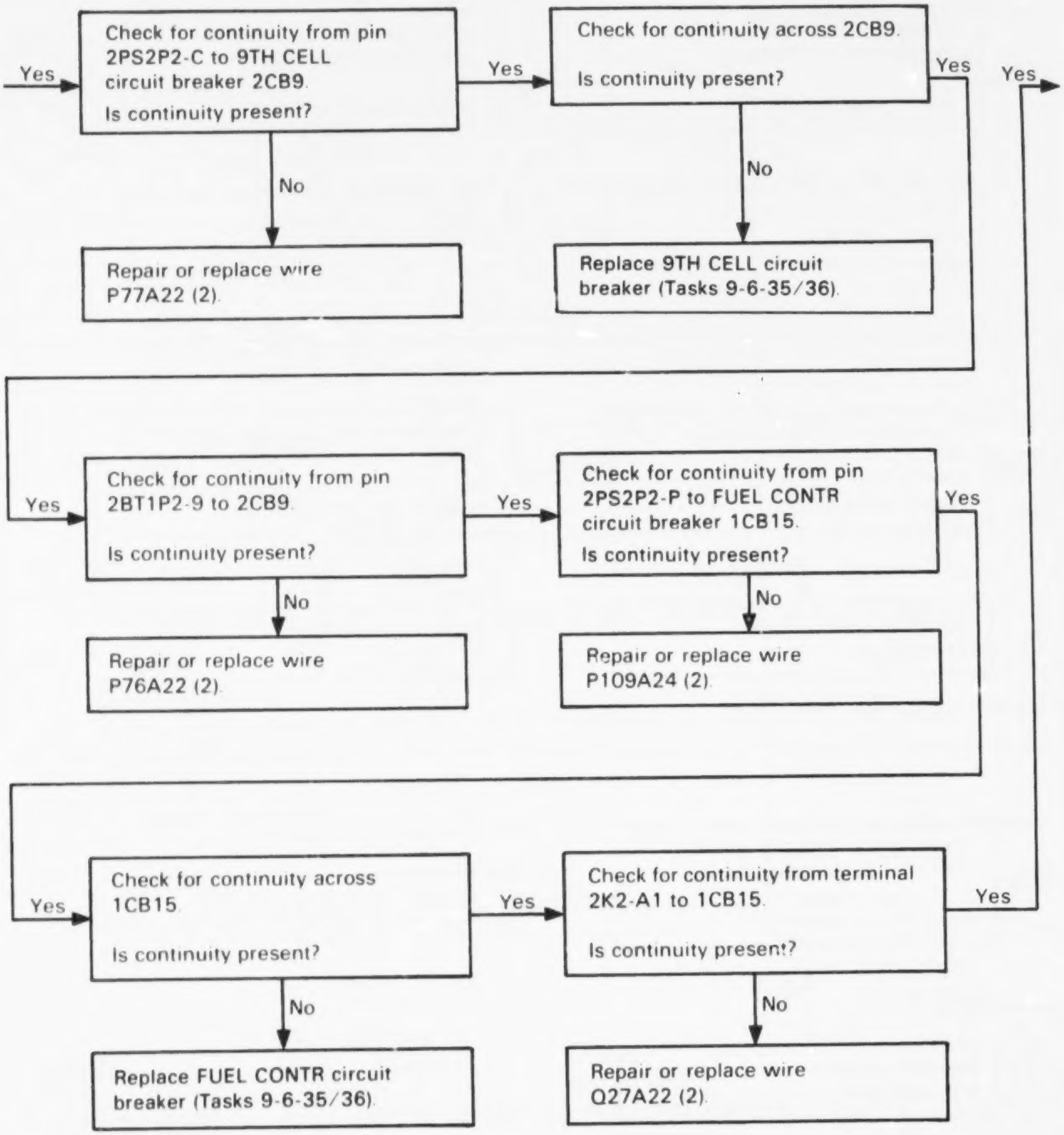
Repair or replace wire P82A22 (6) WHT.

Check for continuity from pin 2PS2P2-B to 2BT1P2-7.

Is continuity present?

Repair or replace wire P82A22 (6) BLU.

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)



Check for continuity from pin 2PS2P2-C to 9TH CELL circuit breaker 2CB9. Is continuity present?

Repair or replace wire P77A22 (2).

Check for continuity across 2CB9. Is continuity present?

Replace 9TH CELL circuit breaker (Tasks 9-6-35/36).

Check for continuity from pin 2BT1P2-9 to 2CB9. Is continuity present?

Repair or replace wire P76A22 (2).

Check for continuity from pin 2PS2P2-P to FUEL CONTR circuit breaker 1CB15. Is continuity present?

Repair or replace wire P109A24 (2).

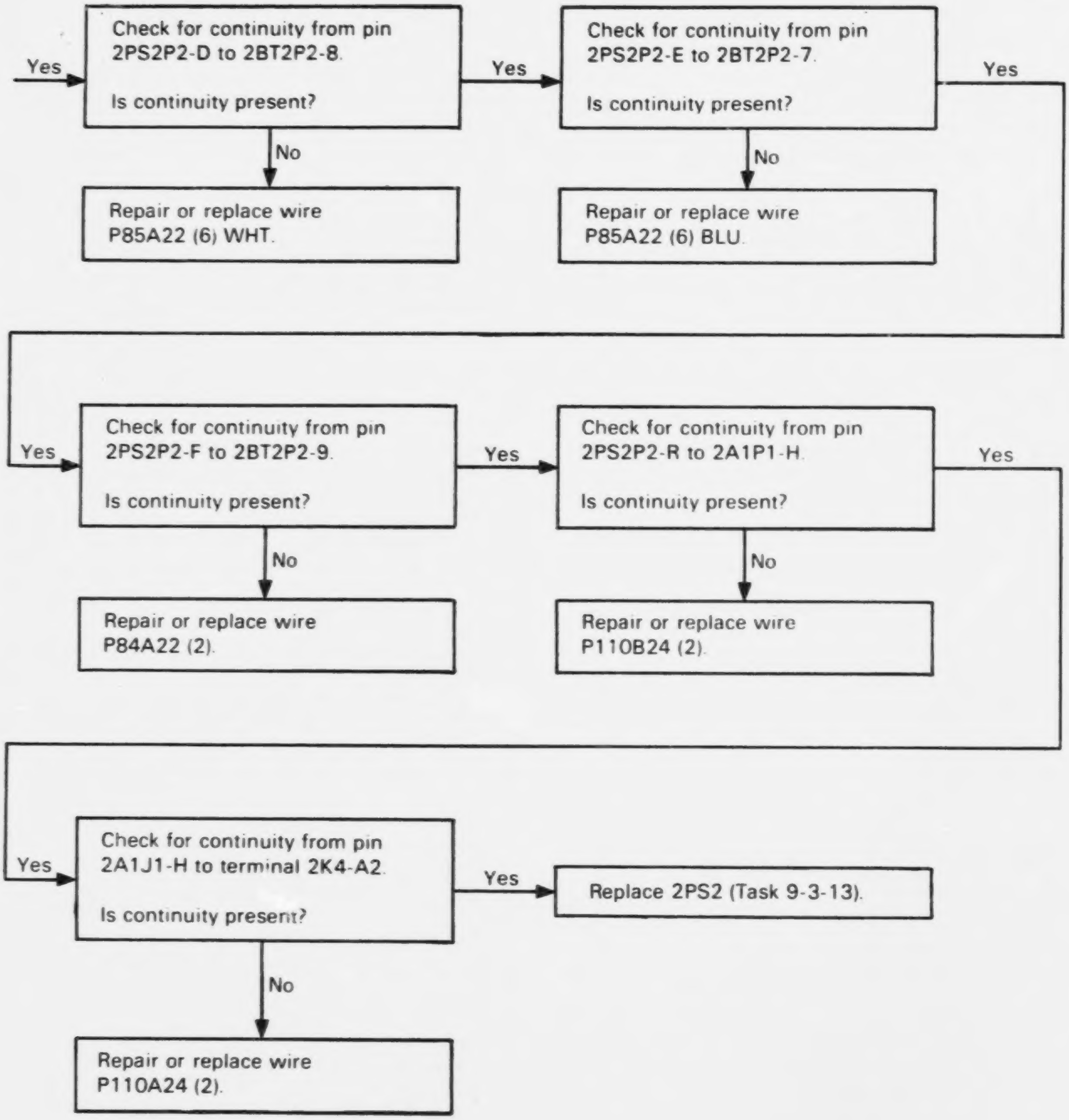
Check for continuity across 1CB15. Is continuity present?

Replace FUEL CONTR circuit breaker (Tasks 9-6-35/36).

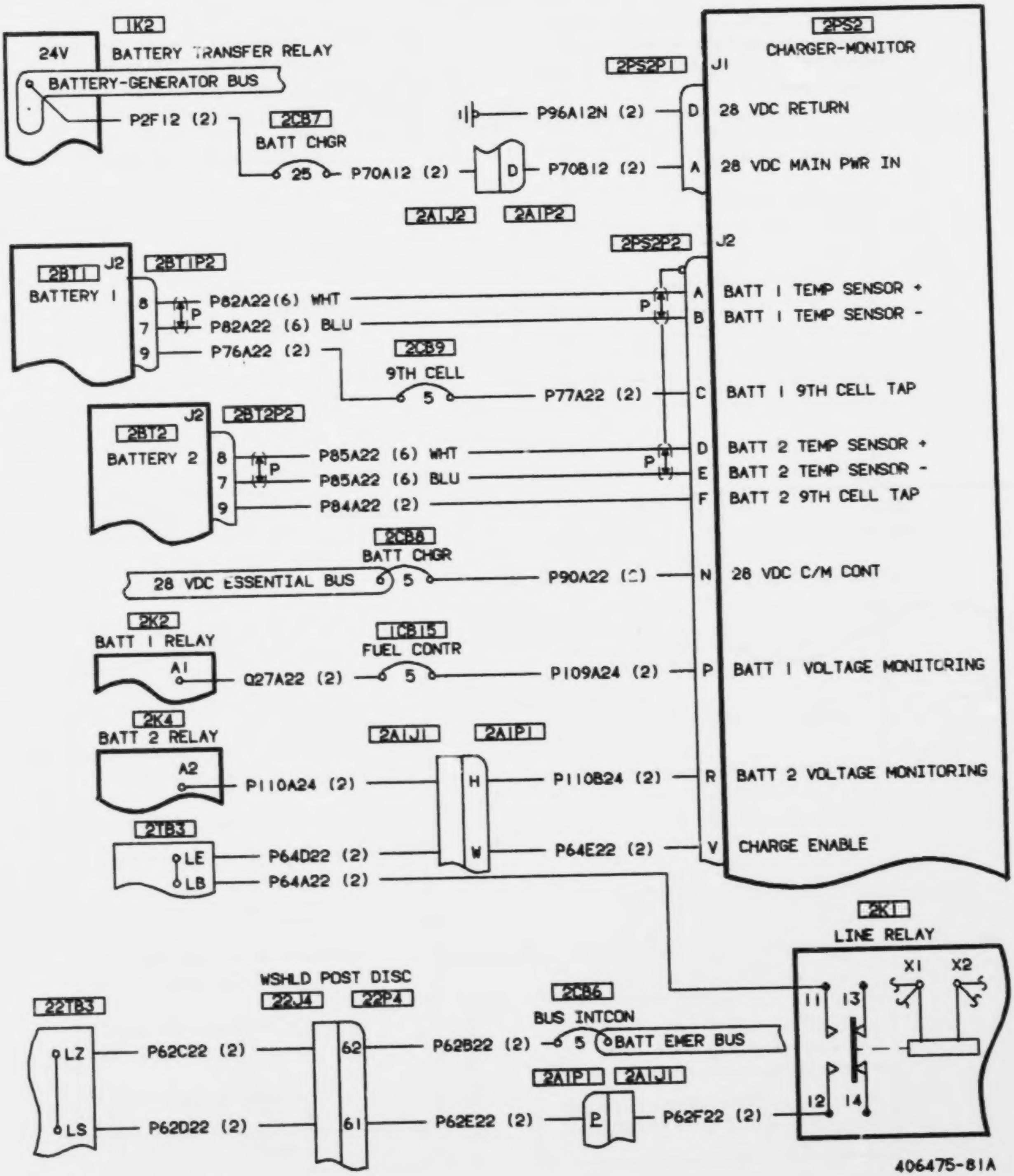
Check for continuity from terminal 2K2-A1 to 1CB15. Is continuity present?

Repair or replace wire Q27A22 (2).

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)

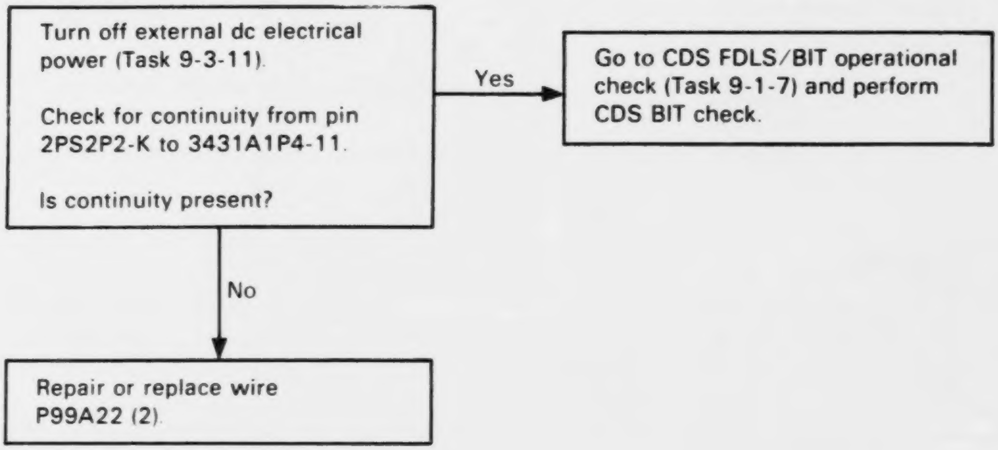

Yes
Check for continuity from pin 2PS2P2-D to 2BT2P2-8.
Is continuity present?
No
Repair or replace wire P85A22 (6) WHT.
Yes
Check for continuity from pin 2PS2P2-E to 2BT2P2-7.
Is continuity present?
No
Repair or replace wire P85A22 (6) BLU.
Yes
Yes
Check for continuity from pin 2PS2P2-F to 2BT2P2-9.
Is continuity present?
No
Repair or replace wire P84A22 (2).
Yes
Check for continuity from pin 2PS2P2-R to 2A1P1-H.
Is continuity present?
No
Repair or replace wire P110B24 (2).
Yes
Yes
Check for continuity from pin 2A1J1-H to terminal 2K4-A2.
Is continuity present?
Yes
Replace 2PS2 (Task 9-3-13).
No
Repair or replace wire P110A24 (2).

82. BATTERY 1 OR BATTERY 2 DOES NOT DISCONNECT FROM BATTERY-GENERATOR BUS AT FLIGHT IDLE (DURING CHARGER-MONITOR OPERATIONAL CHECK) (CONT)


1K2
24V
BATTERY TRANSFER RELAY
BATTERY-GENERATOR BUS
P2F12 (2)
2CB7
BATT CHGR
25
P70A12 (2)
D
P70B12 (2)
P96A12N (2)
2A1J2
2A1P2
2PS2
CHARGER-MONITOR
2PS2P1
J1
D
28 VDC RETURN
A
28 VDC MAIN PWR IN
2PS2P2
J2
2BT1
J2
2BT1P2
BATTERY 1
8
7
9
P
P82A22(6) WHT
P82A22 (6) BLU
P76A22 (2)
2CB9
9TH CELL
5
P77A22 (2)
A
BATT 1 TEMP SENSOR +
B
BATT 1 TEMP SENSOR -
C
BATT 1 9TH CELL TAP
2BT2
J2
2BT2P2
BATTERY 2
8
7
9
P
P85A22 (6) WHT
P85A22 (6) BLU
P84A22 (2)
D
BATT 2 TEMP SENSOR +
E
BATT 2 TEMP SENSOR -
F
BATT 2 9TH CELL TAP
2CB8
BATT CHGR
28 VDC ESSENTIAL BUS
5
P90A22 (2)
N
28 VDC C/M CONT
2K2
BATT 1 RELAY
A1
Q27A22 (2)
1CB15
FUEL CONTR
5
P109A24 (2)
P
BATT 1 VOLTAGE MONITORING
2K4
BATT 2 RELAY
A2
P110A24 (2)
2A1J1
2A1P1
H
P110B24 (2)
R
BATT 2 VOLTAGE MONITORING
2TB3
LE
LB
P64D22 (2)
W
P64E22 (2)
V
CHARGE ENABLE
P64A22 (2)
2K1
LINE RELAY
X1
X2
11
13
12
14
22TB3
LZ
LS
P62C22 (2)
P62D22 (2)
WSHLD POST DISC
22J4
22P4
62
61
P62B22 (2)
2CB6
BUS INTCON
5
BATT EMER BUS
2A1P1
2A1J1
P62E22 (2)
P
P62F22 (2)

406475-81A

83. BATT CHGR FAIL MESSAGE DOES NOT APPEAR ON MFD (JUMPER WIRE BETWEEN 2PS2P2-K AND AIRFRAME, DC EXTERNAL POWER APPLIED)



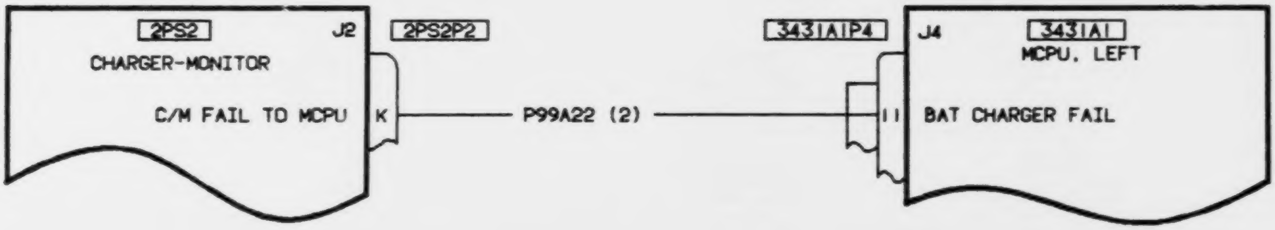
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2PS2P2-K to 3431A1P4-11.

Is continuity present?

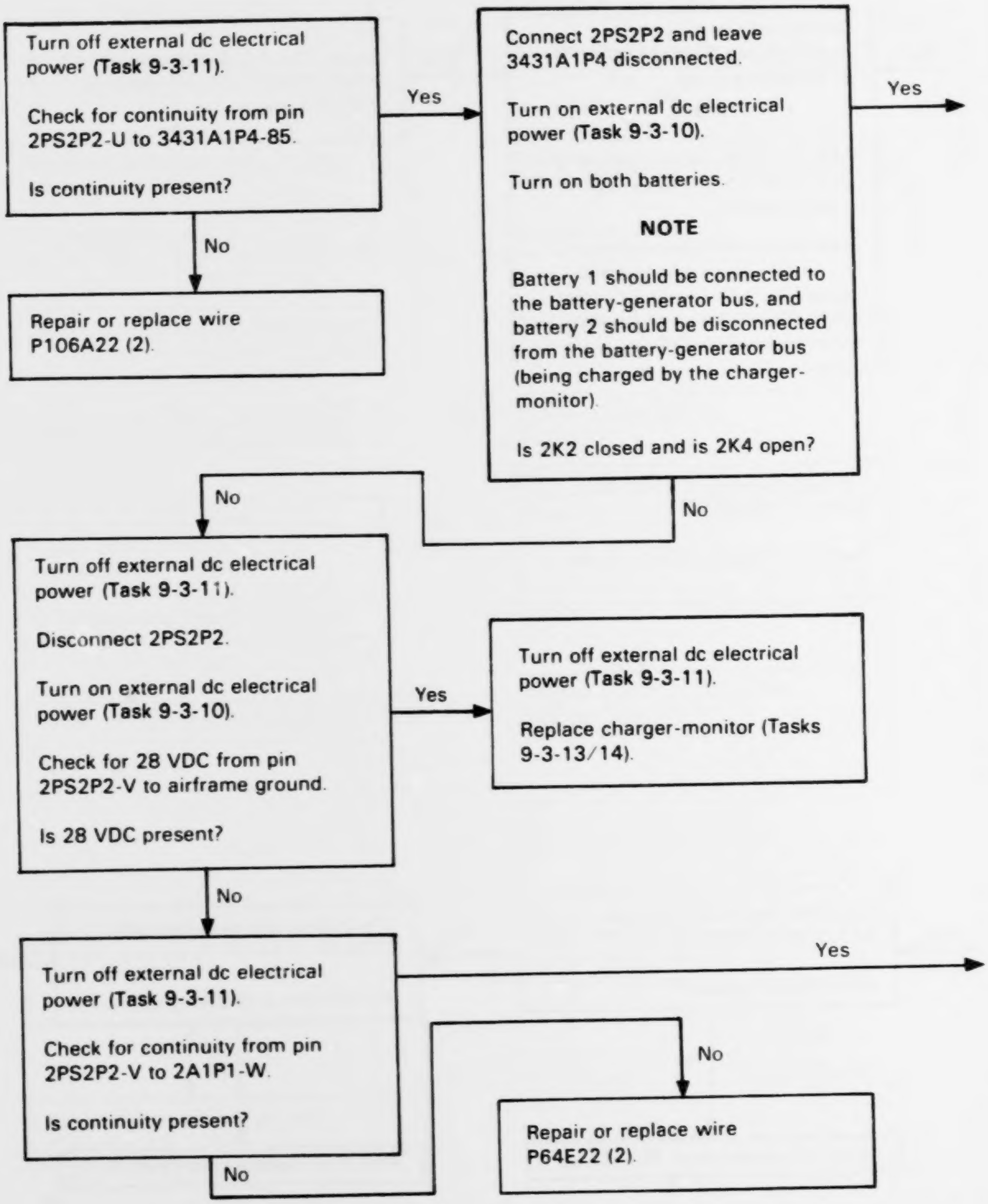
Yes: Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

No: Repair or replace wire P99A22 (2).


2PS2
J2
2PS2P2
CHARGER-MONITOR
C/M FAIL TO MCPU
K
P99A22 (2)
3431A1P4
J4
3431A1
MCPU, LEFT
11
BAT CHARGER FAIL

406475-80A

84. CHARGER-MONITOR DOES NOT OPEN OPPOSITE BATTERY RELAY (WITH OTHER BATTERY RELAY CLOSED AND ITS BATTERY CONNECTED TO BATTERY-GENERATOR BUS AT FLIGHT IDLE)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2PS2P2-U to 3431A1P4-85.

Is continuity present?

Repair or replace wire P106A22 (2).

Connect 2PS2P2 and leave 3431A1P4 disconnected.

Turn on external dc electrical power (Task 9-3-10).

Turn on both batteries.

NOTE

Battery 1 should be connected to the battery-generator bus, and battery 2 should be disconnected from the battery-generator bus (being charged by the charger-monitor).

Is 2K2 closed and is 2K4 open?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 2PS2P2.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC from pin 2PS2P2-V to airframe ground.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Replace charger-monitor (Tasks 9-3-13/14).

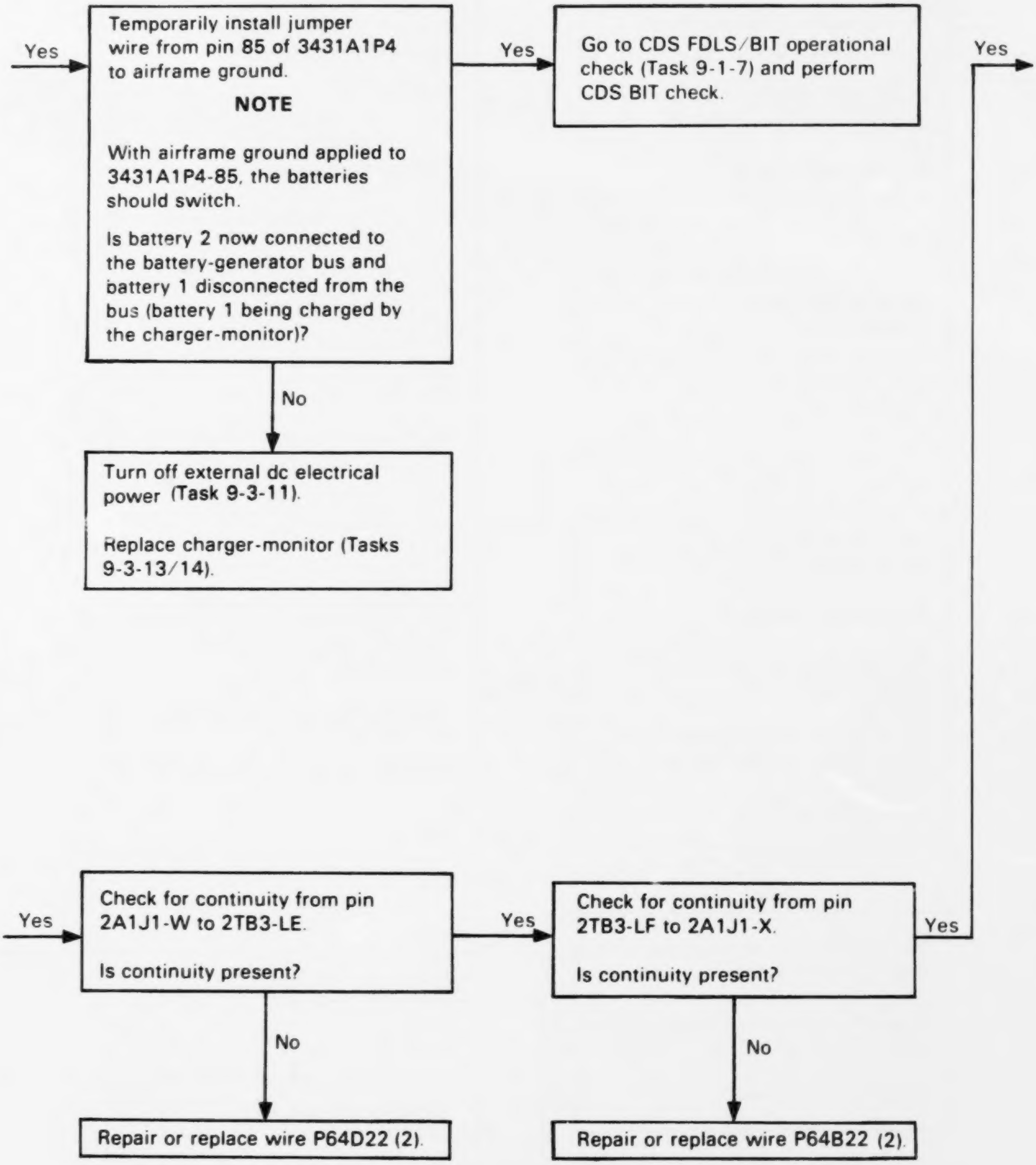
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2PS2P2-V to 2A1P1-W.

Is continuity present?

Repair or replace wire P64E22 (2).

84. CHARGER-MONITOR DOES NOT OPEN OPPOSITE BATTERY RELAY (WITH OTHER BATTERY RELAY CLOSED AND ITS BATTERY CONNECTED TO BATTERY-GENERATED BUS AT FLIGHT !DLE) (CONT)



Temporarily install jumper wire from pin 85 of 3431A1P4 to airframe ground.

NOTE

With airframe ground applied to 3431A1P4-85, the batteries should switch.

Is battery 2 now connected to the battery-generator bus and battery 1 disconnected from the bus (battery 1 being charged by the charger-monitor)?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Turn off external dc electrical power (Task 9-3-11).

Replace charger-monitor (Tasks 9-3-13/14).

Check for continuity from pin 2A1J1-W to 2TB3-LE.

Is continuity present?

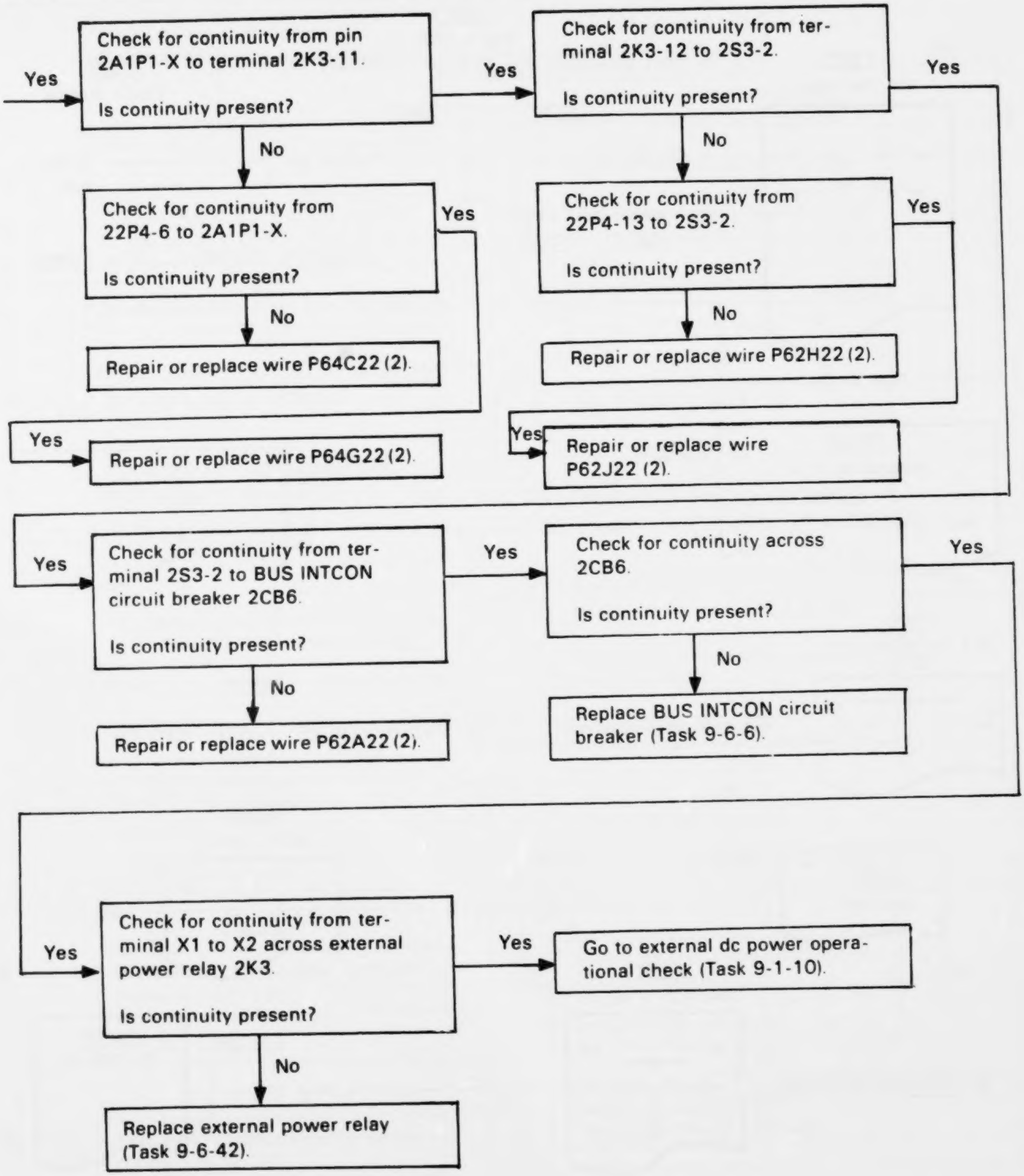
Check for continuity from pin 2TB3-LF to 2A1J1-X.

Is continuity present?

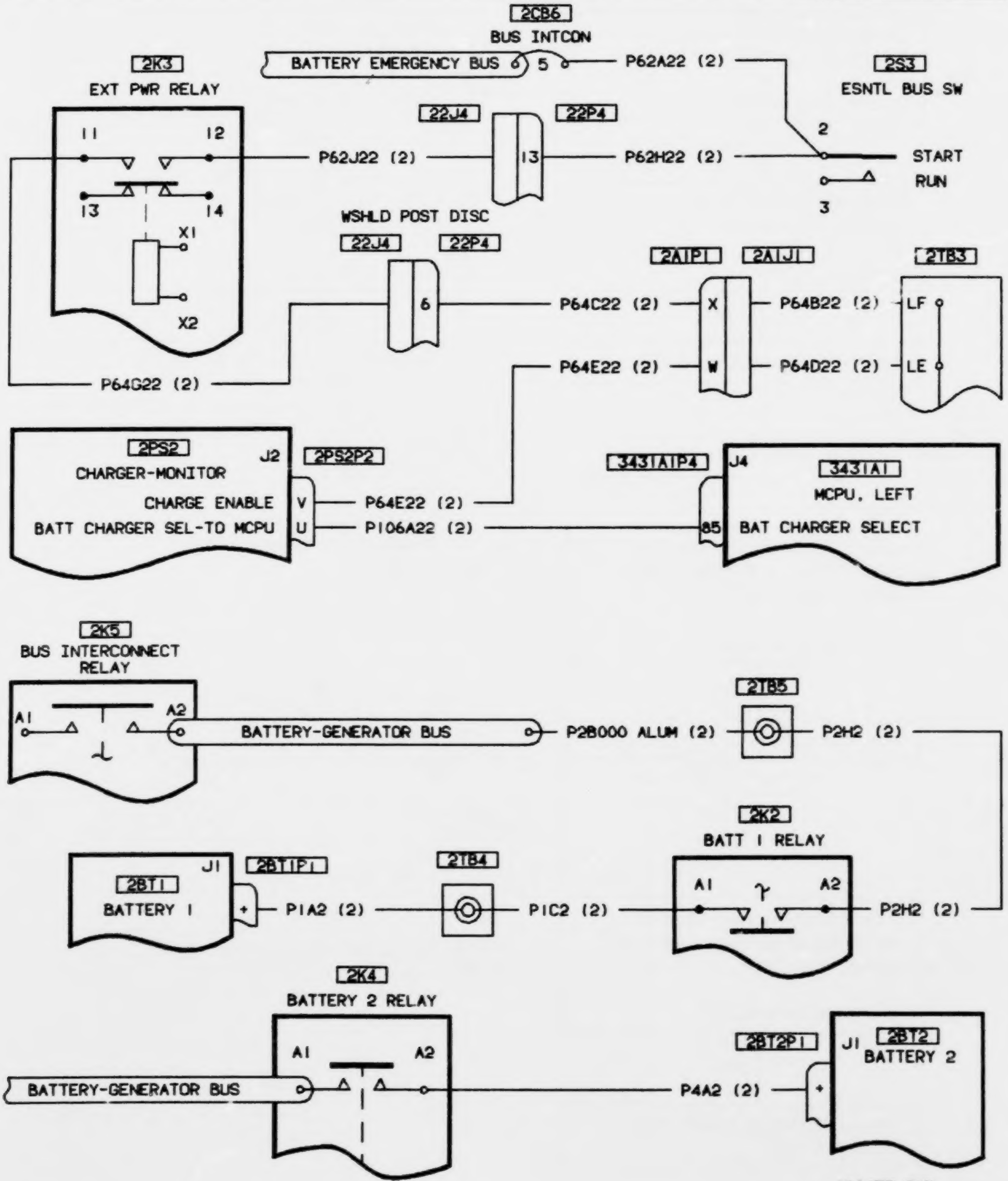
Repair or replace wire P64D22 (2).

Repair or replace wire P64B22 (2).

84. CHARGER-MONITOR DOES NOT OPEN OPPOSITE BATTERY RELAY (WITH OTHER BATTERY RELAY CLOSED AND ITS BATTERY CONNECTED TO BATTERY-GENERATED BUS AT FLIGHT IDLE) (CONT)

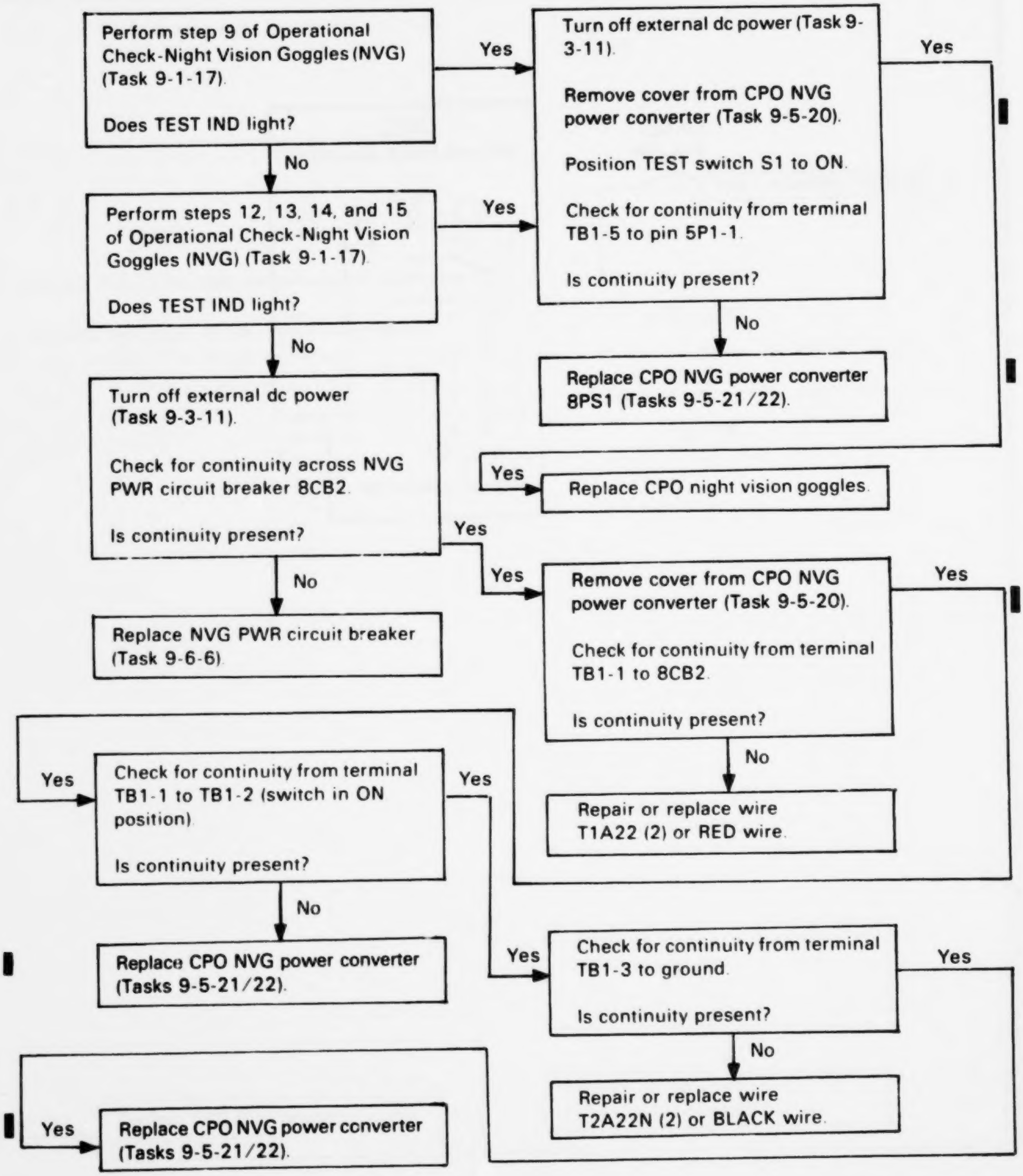

Yes
Check for continuity from pin 2A1P1-X to terminal 2K3-11. Is continuity present?
Yes
Check for continuity from terminal 2K3-12 to 2S3-2. Is continuity present?
Yes
No
No
Check for continuity from 22P4-6 to 2A1P1-X. Is continuity present?
Yes
Check for continuity from 22P4-13 to 2S3-2. Is continuity present?
Yes
No
No
Repair or replace wire P64C22 (2).
Repair or replace wire P62H22 (2).
Yes
Repair or replace wire P64G22 (2).
Yes
Repair or replace wire P62J22 (2).
Yes
Check for continuity from terminal 2S3-2 to BUS INTCON circuit breaker 2CB6. Is continuity present?
Yes
Check for continuity across 2CB6. Is continuity present?
Yes
No
No
Repair or replace wire P62A22 (2).
Replace BUS INTCON circuit breaker (Task 9-6-6).
Yes
Check for continuity from terminal X1 to X2 across external power relay 2K3. Is continuity present?
Yes
Go to external dc power operational check (Task 9-1-10).
No
Replace external power relay (Task 9-6-42).

84. CHARGER-MONITOR DOES NOT OPEN OPPOSITE BATTERY RELAY (WITH OTHER BATTERY RELAY CLOSED AND ITS BATTERY CONNECTED TO BATTERY-GENERATED BUS AT FLIGHT IDLE) (CONT)

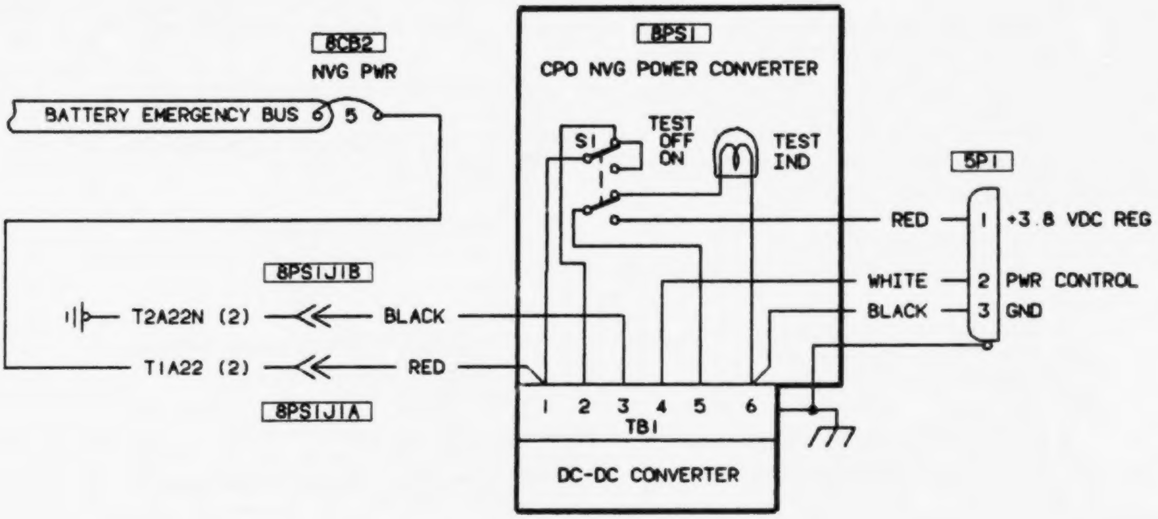

2CB6
BUS INTCON
BATTERY EMERGENCY BUS
6
5
P62A22 (2)
2S3
ESNTL BUS SW
2K3
EXT PWR RELAY
11
12
13
14
X1
X2
22J4
22P4
13
P62J22 (2)
P62H22 (2)
2
START
RUN
3
WSHLD POST DISC
22J4
22P4
6
P64C22 (2)
2A1P1
2A1J1
X
W
P64B22 (2)
P64D22 (2)
2TB3
LF
LE
P64E22 (2)
P64G22 (2)
2PS2
CHARGER-MONITOR
J2
2PS2P2
CHARGE ENABLE
BATT CHARGER SEL-TO MCPU
V
U
P64E22 (2)
P106A22 (2)
3431A1P4
J4
3431A1
MCPU, LEFT
85
BAT CHARGER SELECT
2K5
BUS INTERCONNECT RELAY
A1
A2
BATTERY-GENERATOR BUS
P2B000 ALUM (2)
2TB5
P2H2 (2)
2K2
BATT 1 RELAY
A1
A2
2BT1
BATTERY 1
J1
2BT1P1
+
P1A2 (2)
2TB4
P1C2 (2)
P2H2 (2)
2K4
BATTERY 2 RELAY
A1
A2
BATTERY-GENERATOR BUS
P4A2 (2)
2BT2P1
J1
2BT2
BATTERY 2
+

406475-78B

85. CPO NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 THROUGH 43065 WITH NVG POWER CONVERTER P/N 5002614 INSTALLED

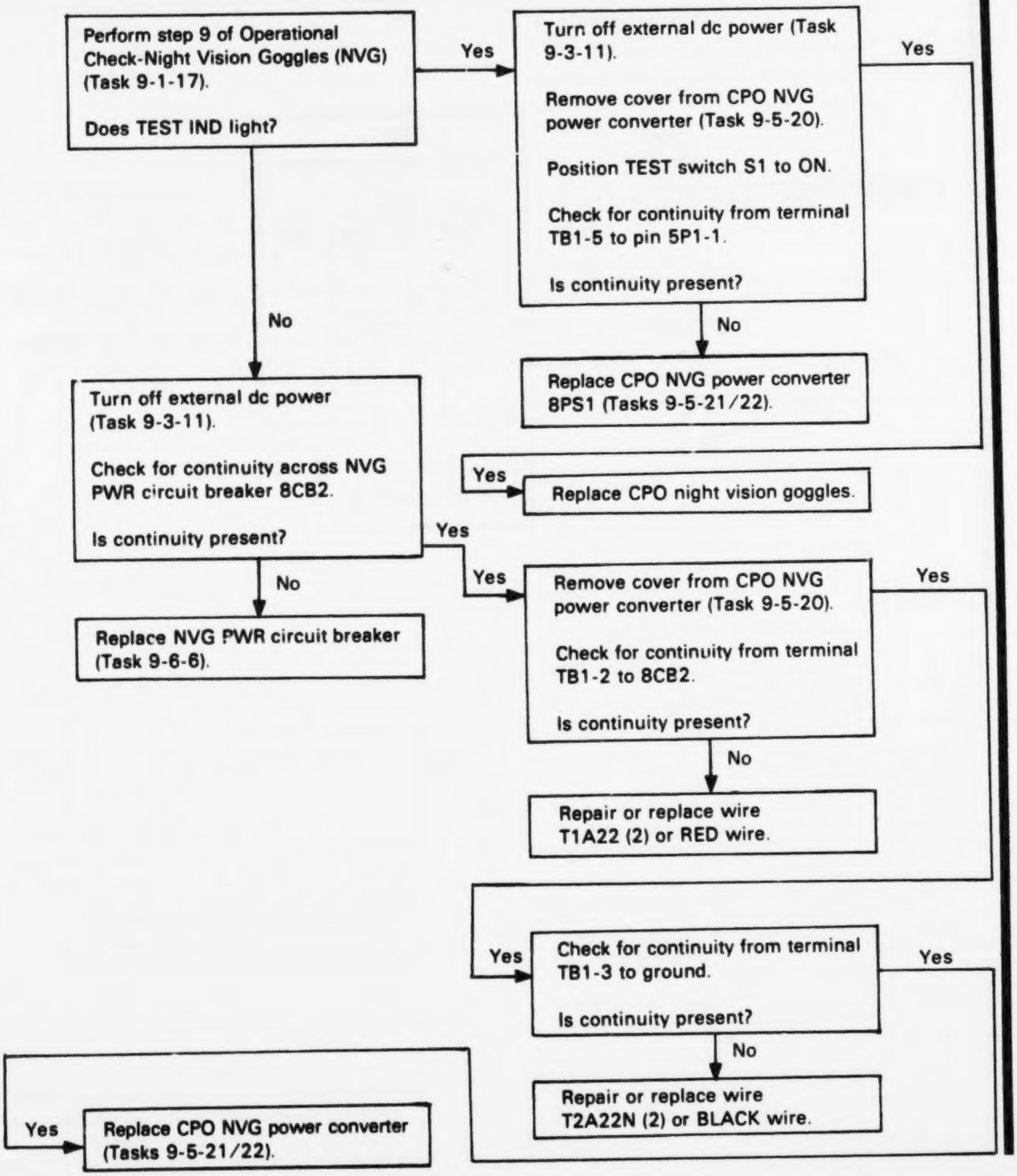

Perform step 9 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-17). Does TEST IND light?
Yes
Turn off external dc power (Task 9-3-11). Remove cover from CPO NVG power converter (Task 9-5-20). Position TEST switch S1 to ON. Check for continuity from terminal TB1-5 to pin 5P1-1. Is continuity present?
Yes
No
Perform steps 12, 13, 14, and 15 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-17). Does TEST IND light?
Yes
No
Replace CPO NVG power converter 8PS1 (Tasks 9-5-21/22).
No
Turn off external dc power (Task 9-3-11). Check for continuity across NVG PWR circuit breaker 8CB2. Is continuity present?
Yes
Replace CPO night vision goggles.
Yes
Yes
Remove cover from CPO NVG power converter (Task 9-5-20). Check for continuity from terminal TB1-1 to 8CB2. Is continuity present?
Yes
No
Replace NVG PWR circuit breaker (Task 9-6-6).
No
Repair or replace wire T1A22 (2) or RED wire.
Yes
Check for continuity from terminal TB1-1 to TB1-2 (switch in ON position). Is continuity present?
Yes
No
Replace CPO NVG power converter (Tasks 9-5-21/22).
Yes
Check for continuity from terminal TB1-3 to ground. Is continuity present?
Yes
No
Repair or replace wire T2A22N (2) or BLACK wire.
Yes
Replace CPO NVG power converter (Tasks 9-5-21/22).

85. CPO NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 THROUGH 43065 WITH NVG POWER CONVERTER P/N 5002614 INSTALLED (CONT)

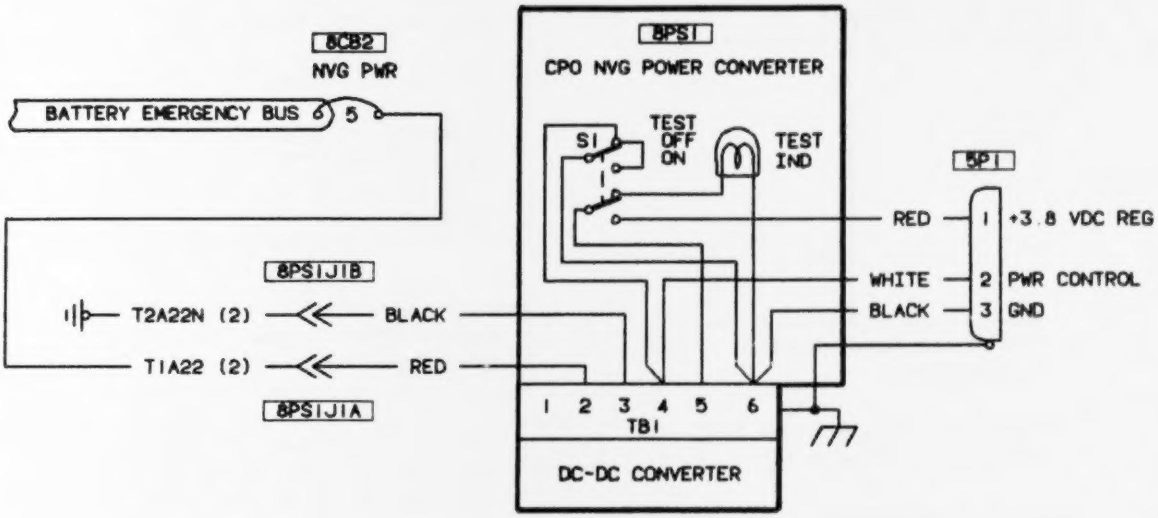

8CB2
NVG PWR
BATTERY EMERGENCY BUS
6
5
8PS1
CPO NVG POWER CONVERTER
S1
TEST
OFF
ON
TEST
IND
5P1
RED
1
+3.8 VDC REG
WHITE
2
PWR CONTROL
BLACK
3
GND
8PS1J1B
T2A22N (2)
BLACK
T1A22 (2)
RED
8PS1J1A
1 2 3 4 5 6
TB1
DC-DC CONVERTER

406475-84D

85.1 CPO NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 AND SUBSEQUENT WITH NVG POWER CONVERTER P/N 402-100-002 INSTALLED

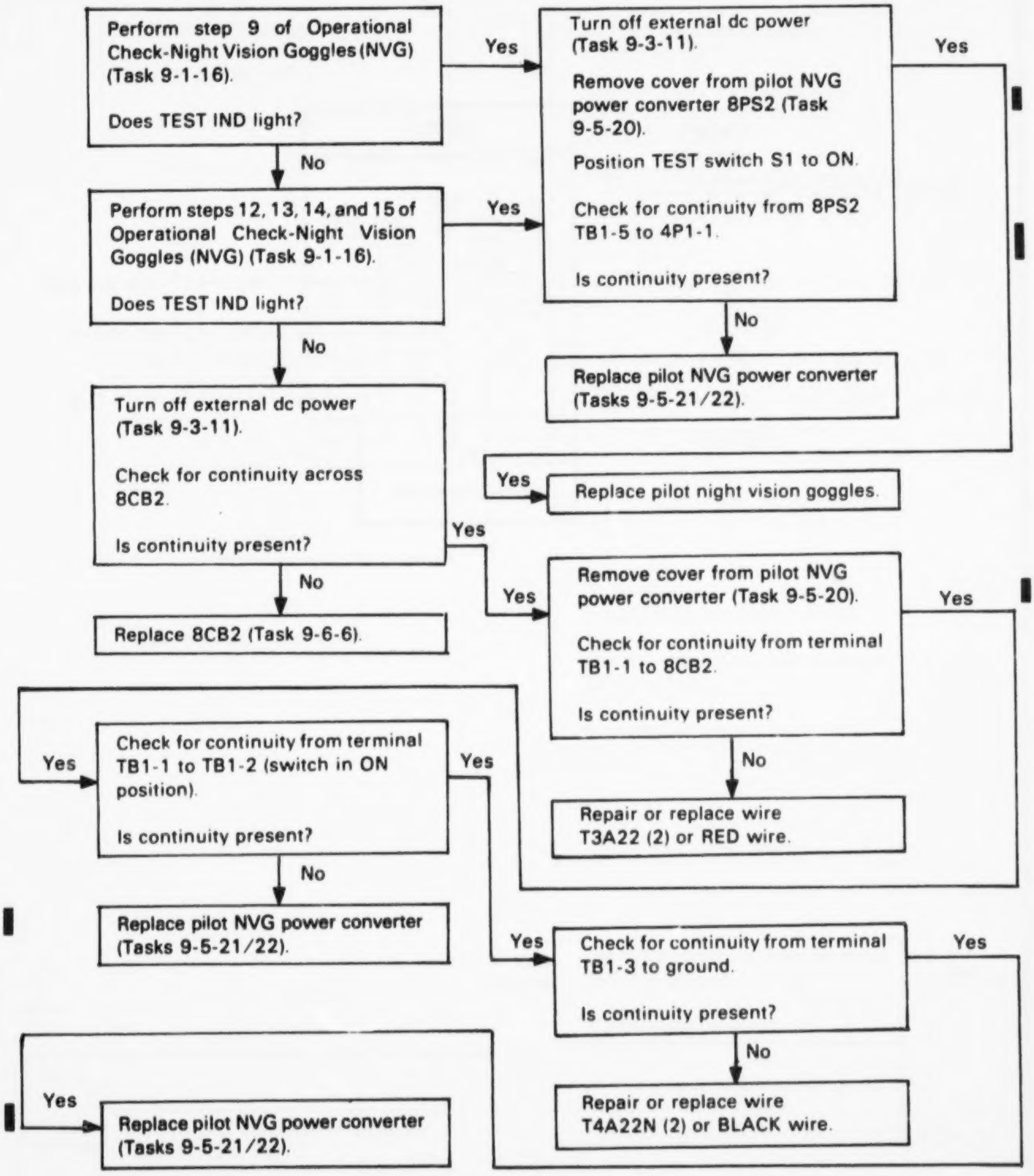

Perform step 9 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-17).
Does TEST IND light?
Yes
Turn off external dc power (Task 9-3-11).
Remove cover from CPO NVG power converter (Task 9-5-20).
Position TEST switch S1 to ON.
Check for continuity from terminal TB1-5 to pin 5P1-1.
Is continuity present?
Yes
No
Replace CPO NVG power converter 8PS1 (Tasks 9-5-21/22).
Yes
Replace CPO night vision goggles.
No
Turn off external dc power (Task 9-3-11).
Check for continuity across NVG PWR circuit breaker 8CB2.
Is continuity present?
No
Replace NVG PWR circuit breaker (Task 9-6-6).
Yes
Yes
Remove cover from CPO NVG power converter (Task 9-5-20).
Check for continuity from terminal TB1-2 to 8CB2.
Is continuity present?
Yes
No
Repair or replace wire T1A22 (2) or RED wire.
Yes
Check for continuity from terminal TB1-3 to ground.
Is continuity present?
Yes
No
Repair or replace wire T2A22N (2) or BLACK wire.
Yes
Replace CPO NVG power converter (Tasks 9-5-21/22).

85.1 CPO NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 AND SUBSEQUENT WITH NVG POWER CONVERTER P/N 402-100-002 INSTALLED (CONT)

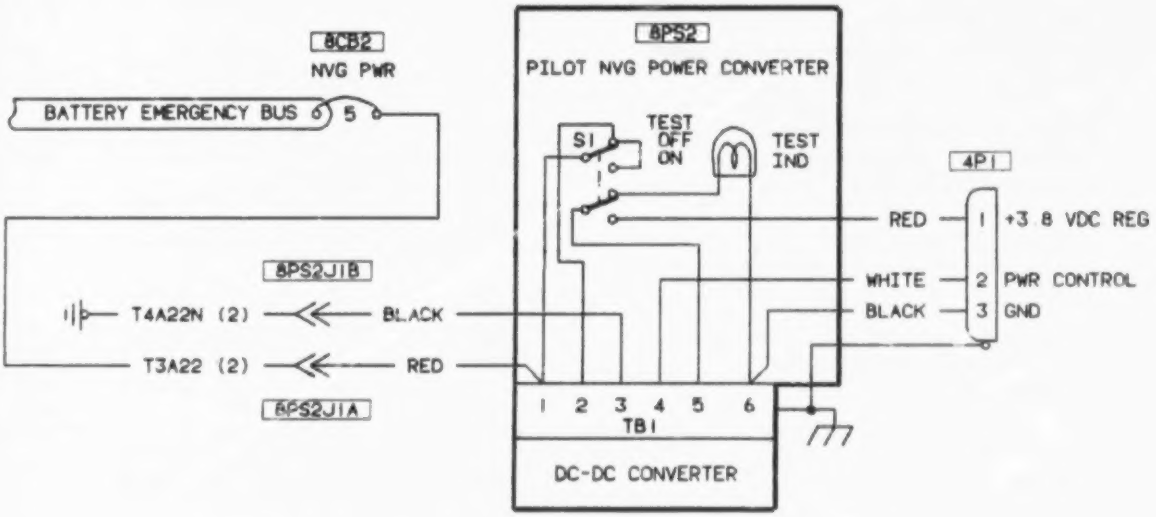

8CB2
NVG PWR
BATTERY EMERGENCY BUS
5
8PS1
CPO NVG POWER CONVERTER
S1
TEST
OFF
ON
TEST
IND
5P1
RED
1
+3.8 VDC REG
WHITE
2
PWR CONTROL
BLACK
3
GND
8PS1J1B
T2A22N (2)
BLACK
T1A22 (2)
RED
8PS1J1A
1 2 3 4 5 6
TB1
DC-DC CONVERTER

406475-259

86. PILOT NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 THROUGH 43065 WITH NVG POWER CONVERTER P/N 5002614 INSTALLED

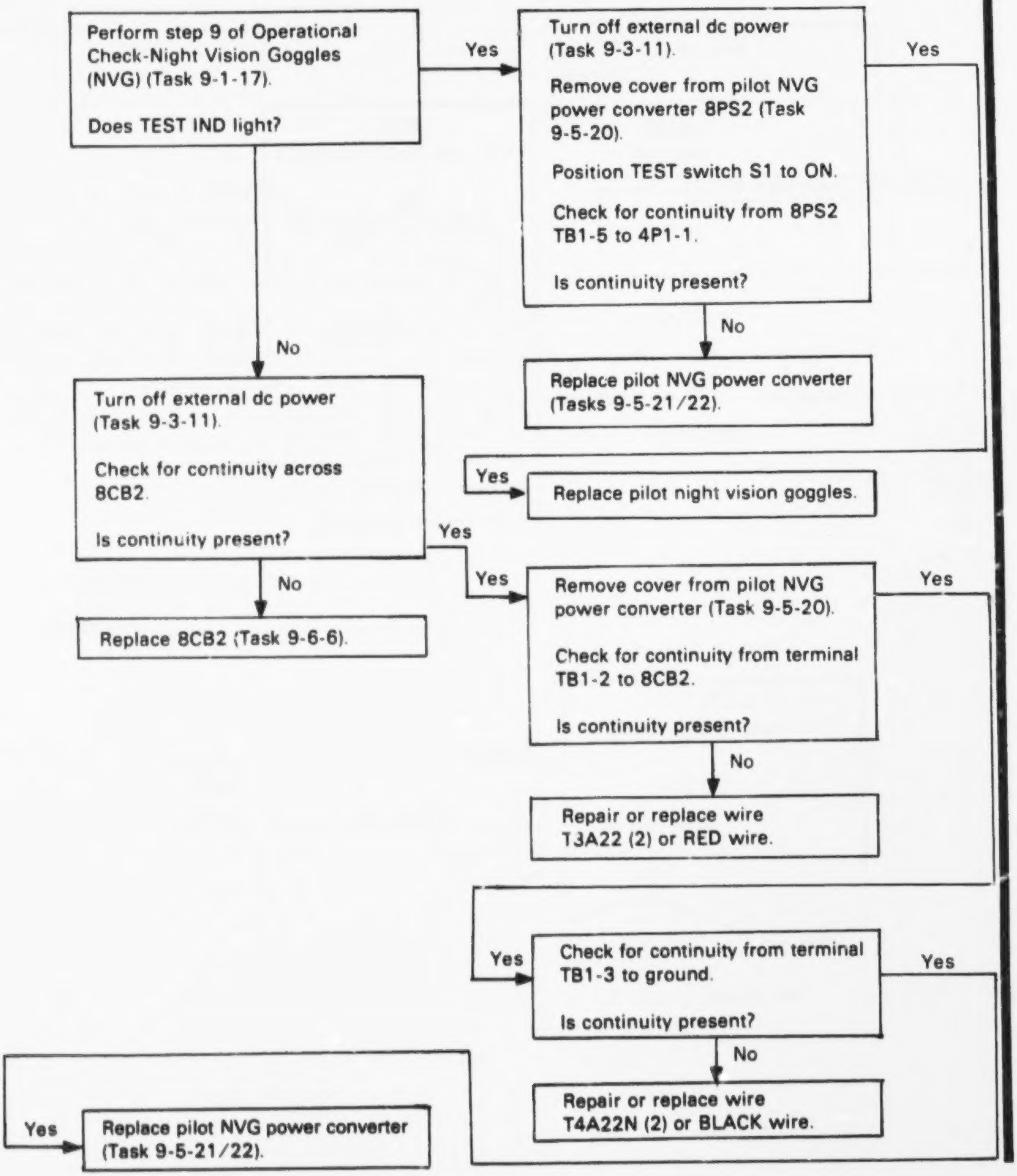

Perform step 9 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-16).
Does TEST IND light?
Yes
No
Turn off external dc power (Task 9-3-11).
Remove cover from pilot NVG power converter 8PS2 (Task 9-5-20).
Position TEST switch S1 to ON.
Check for continuity from 8PS2 TB1-5 to 4P1-1.
Is continuity present?
Yes
Perform steps 12, 13, 14, and 15 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-16).
Does TEST IND light?
Yes
No
No
Replace pilot NVG power converter (Tasks 9-5-21/22).
Turn off external dc power (Task 9-3-11).
Check for continuity across 8CB2.
Is continuity present?
Yes
Replace pilot night vision goggles.
Yes
No
Replace 8CB2 (Task 9-6-6).
Yes
Remove cover from pilot NVG power converter (Task 9-5-20).
Check for continuity from terminal TB1-1 to 8CB2.
Is continuity present?
Yes
No
Repair or replace wire T3A22 (2) or RED wire.
Yes
Check for continuity from terminal TB1-1 to TB1-2 (switch in ON position).
Is continuity present?
Yes
No
Replace pilot NVG power converter (Tasks 9-5-21/22).
Yes
Check for continuity from terminal TB1-3 to ground.
Is continuity present?
Yes
No
Repair or replace wire T4A22N (2) or BLACK wire.
Yes
Replace pilot NVG power converter (Tasks 9-5-21/22).

86. PILOT NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 THROUGH 43065 WITH NVG POWER CONVERTER S/N 5002614 INSTALLED (CONT)

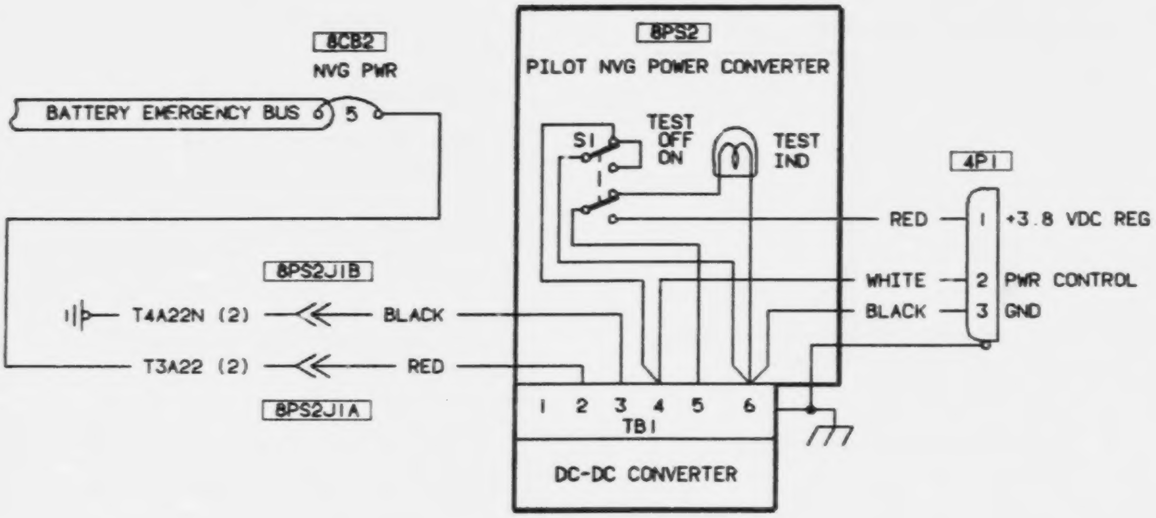

8CB2
NVG PWR
BATTERY EMERGENCY BUS 6
5
8PS2
PILOT NVG POWER CONVERTER
S1
TEST
OFF
ON
TEST
IND
4P1
RED
1
+3 8 VDC REG
WHITE
2
PWR CONTROL
BLACK
3
GND
8PS2J1B
T4A22N (2)
BLACK
T3A22 (2)
RED
8PS2J1A
1 2 3 4 5 6
TB1
DC-DC CONVERTER

406475-85C

86.1 PILOT NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 AND SUBSEQUENT WITH NVG POWER CONVERTER P/N 402-100-002 INSTALLED

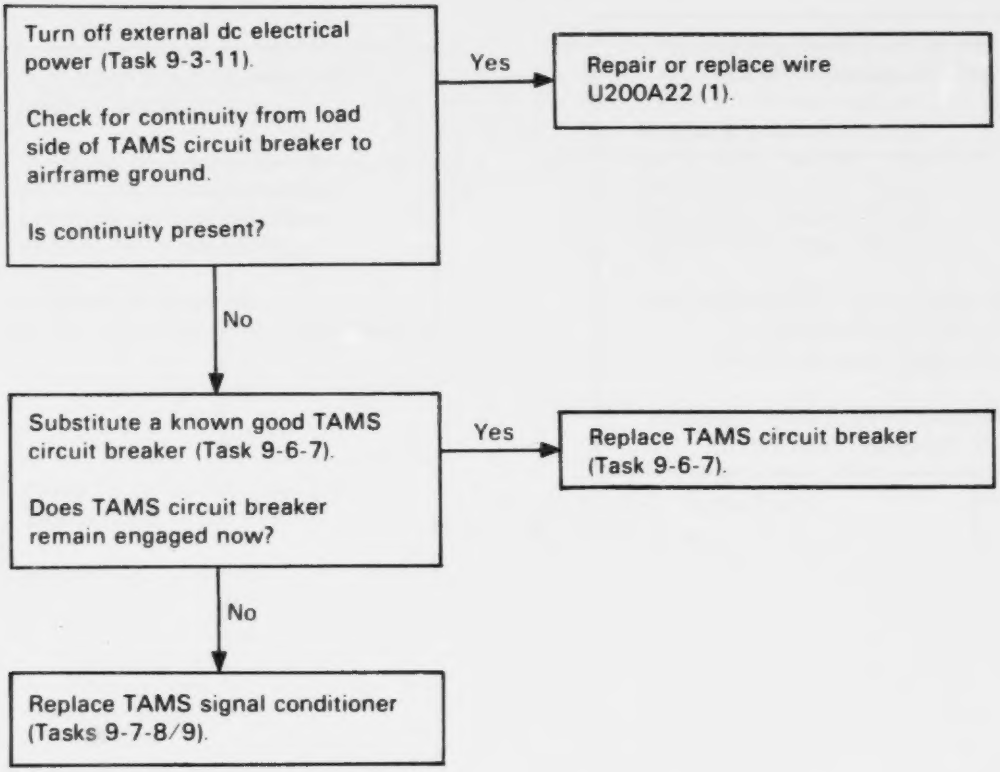

Perform step 9 of Operational Check-Night Vision Goggles (NVG) (Task 9-1-17). Does TEST IND light?
Yes
Turn off external dc power (Task 9-3-11). Remove cover from pilot NVG power converter 8PS2 (Task 9-5-20). Position TEST switch S1 to ON. Check for continuity from 8PS2 TB1-5 to 4P1-1. Is continuity present?
Yes
No
Replace pilot NVG power converter (Tasks 9-5-21/22).
Yes
Replace pilot night vision goggles.
No
Turn off external dc power (Task 9-3-11). Check for continuity across 8CB2. Is continuity present?
No
Replace 8CB2 (Task 9-6-6).
Yes
Yes
Remove cover from pilot NVG power converter (Task 9-5-20). Check for continuity from terminal TB1-2 to 8CB2. Is continuity present?
Yes
No
Repair or replace wire T3A22 (2) or RED wire.
Yes
Check for continuity from terminal TB1-3 to ground. Is continuity present?
Yes
No
Repair or replace wire T4A22N (2) or BLACK wire.
Yes
Replace pilot NVG power converter (Task 9-5-21/22).

86.1 PILOT NIGHT VISION GOGGLES (NVG) DO NOT COME ON WHEN NVG POWER CONVERTER SWITCH IS SET TO ON. HELICOPTER SERIAL NUMBERS 43006 AND SUBSEQUENT WITH NVG POWER CONVERTER P/N 402-100-002 INSTALLED (CONT)


8CB2
NVG PWR
BATTERY EMERGENCY BUS
6
5
8PS2
PILOT NVG POWER CONVERTER
S1
TEST
OFF
ON
TEST
IND
4P1
RED
1
+3.8 VDC REG
WHITE
2
PWR CONTROL
BLACK
3
GND
8PS2J1B
T4A22N (2)
BLACK
T3A22 (2)
RED
8PS2J1A
1 2 3 4 5 6
TB1
DC-DC CONVERTER

406475-258

87. TAMS CIRCUIT BREAKER WILL NOT STAY CLOSED



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from load side of TAMS circuit breaker to airframe ground.

Is continuity present?

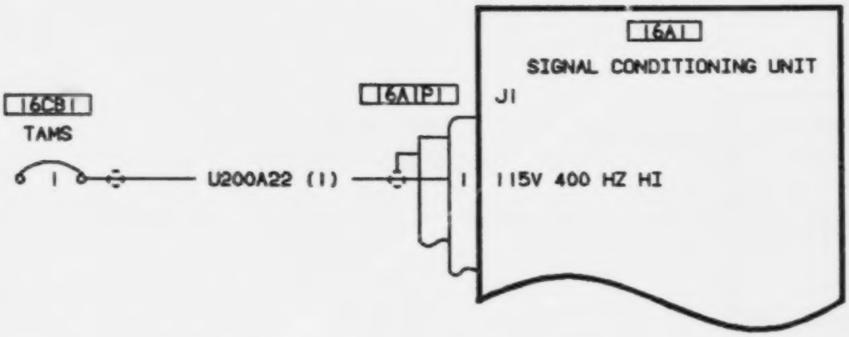
Yes: Repair or replace wire U200A22 (1).

No: Substitute a known good TAMS circuit breaker (Task 9-6-7).

Does TAMS circuit breaker remain engaged now?

Yes: Replace TAMS circuit breaker (Task 9-6-7).

No: Replace TAMS signal conditioner (Tasks 9-7-8/9).


16A1
SIGNAL CONDITIONING UNIT
16A1P1
J1
16CB1
TAMS
1
U200A22 (1)
1
115V 400 HZ HI

406475-83A

88. TAMS NO GO APPEARS ON MFD

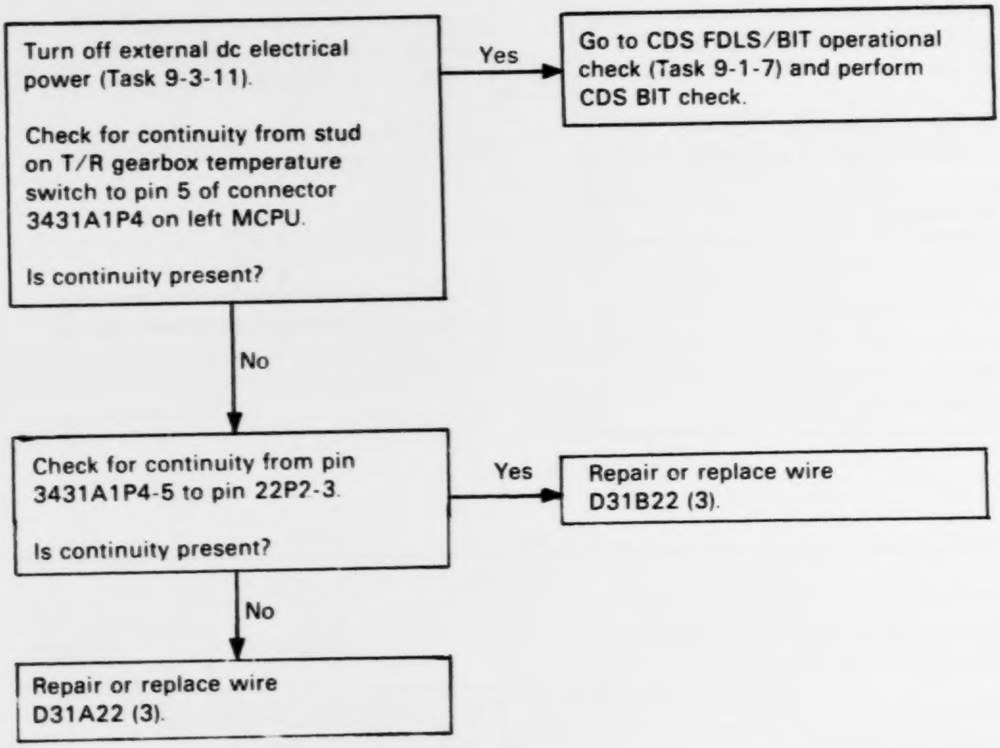
One of the following messages will also appear on MFD.

ELECTRONICS FAIL
LEFT FRONT LVDT FAIL
LEFT AFT LVDT FAIL
RIGHT FRONT LVDT FAIL
RIGHT AFT LVDT FAIL

Replace signal conditioning unit if ELECTRONICS FAIL is indicated (Tasks 9-7-8/9).

Replace LVDT if other messages are indicated (Task 9-7-12).

89. CAUTION MESSAGE HIGH TEMP T/R GRBX DOES NOT COME ON WHEN TAIL ROTOR TEMPERATURE SWITCH IS GROUNDED



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from stud on T/R gearbox temperature switch to pin 5 of connector 3431A1P4 on left MCPU.

Is continuity present?

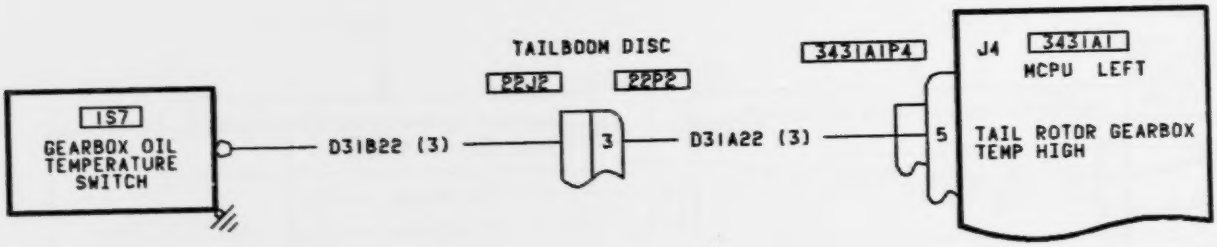
Yes: Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

No: Check for continuity from pin 3431A1P4-5 to pin 22P2-3.

Is continuity present?

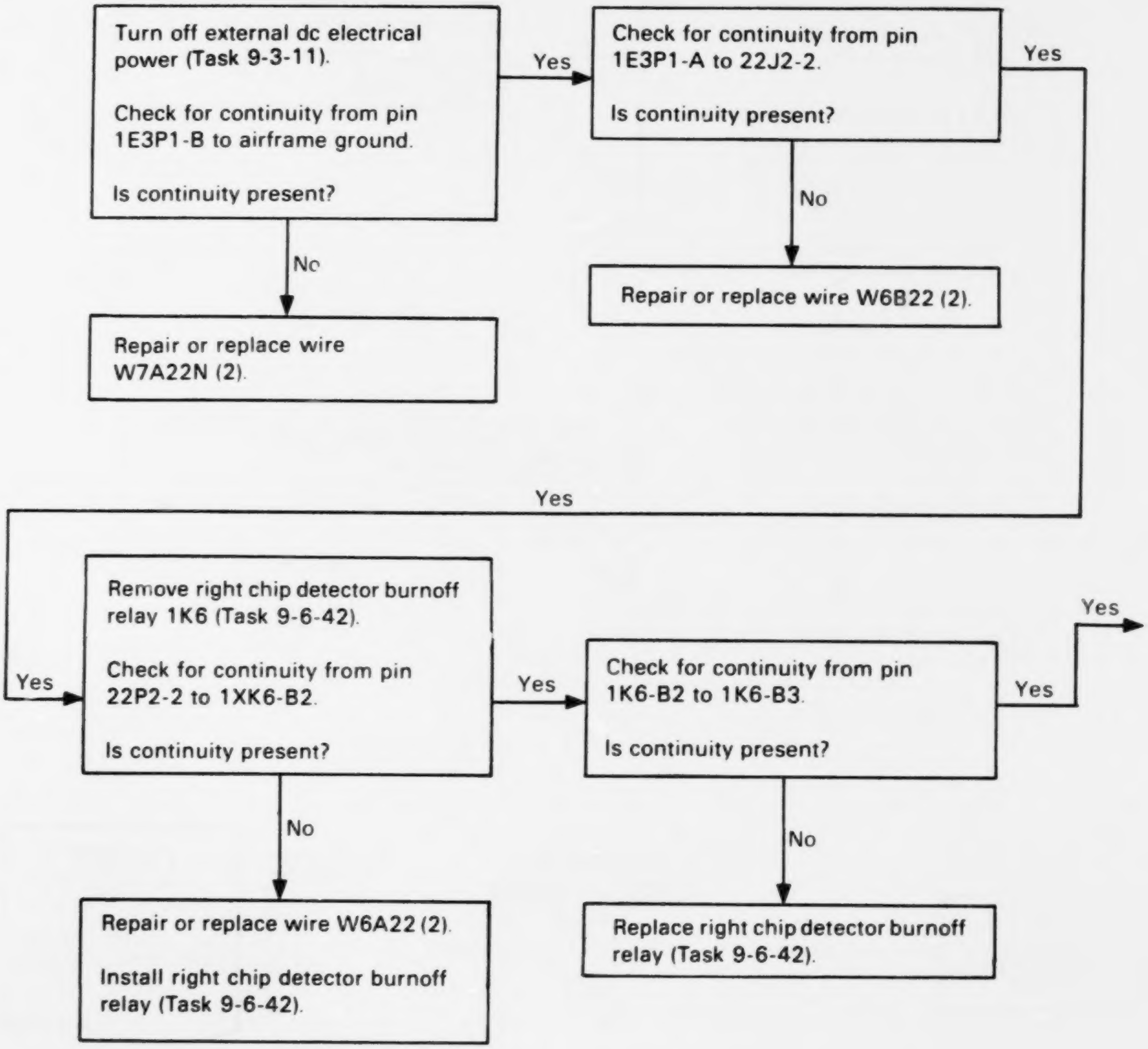
Yes: Repair or replace wire D31B22 (3).

No: Repair or replace wire D31A22 (3).


TAILBOOM DISC
22J2
22P2
1S7
GEARBOX OIL TEMPERATURE SWITCH
D31B22 (3)
3
D31A22 (3)
3431A1P4
J4
3431A1
MCPU LEFT
5
TAIL ROTOR GEARBOX TEMP HIGH

406475-87

90. CAUTION MESSAGE CHIP T/R GRBX DOES NOT COME ON (CONNECTOR 1E3P1 IS CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1E3P1-B to airframe ground.

Is continuity present?

Check for continuity from pin 1E3P1-A to 22J2-2.

Is continuity present?

Repair or replace wire W6B22 (2).

Repair or replace wire W7A22N (2).

Remove right chip detector burnoff relay 1K6 (Task 9-6-42).

Check for continuity from pin 22P2-2 to 1XK6-B2.

Is continuity present?

Check for continuity from pin 1K6-B2 to 1K6-B3.

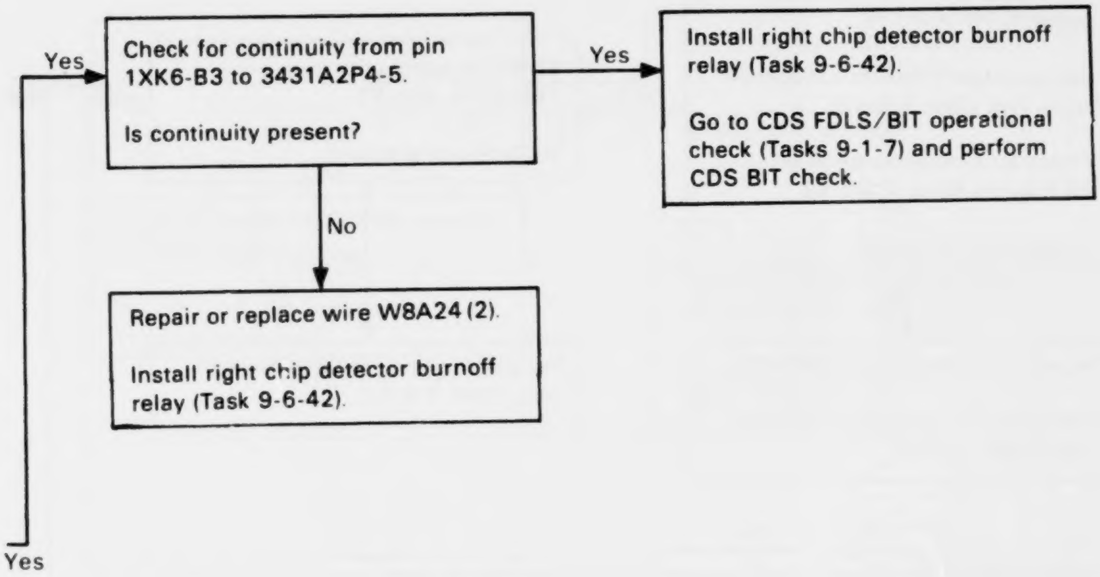
Is continuity present?

Repair or replace wire W6A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Replace right chip detector burnoff relay (Task 9-6-42).

90. CAUTION MESSAGE CHIP T/R GRBX DOES NOT COME ON (CONNECTOR 1E3P1 IS CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET ON) (CONT)


Yes
Yes
No
Yes

Check for continuity from pin 1XK6-B3 to 3431A2P4-5.

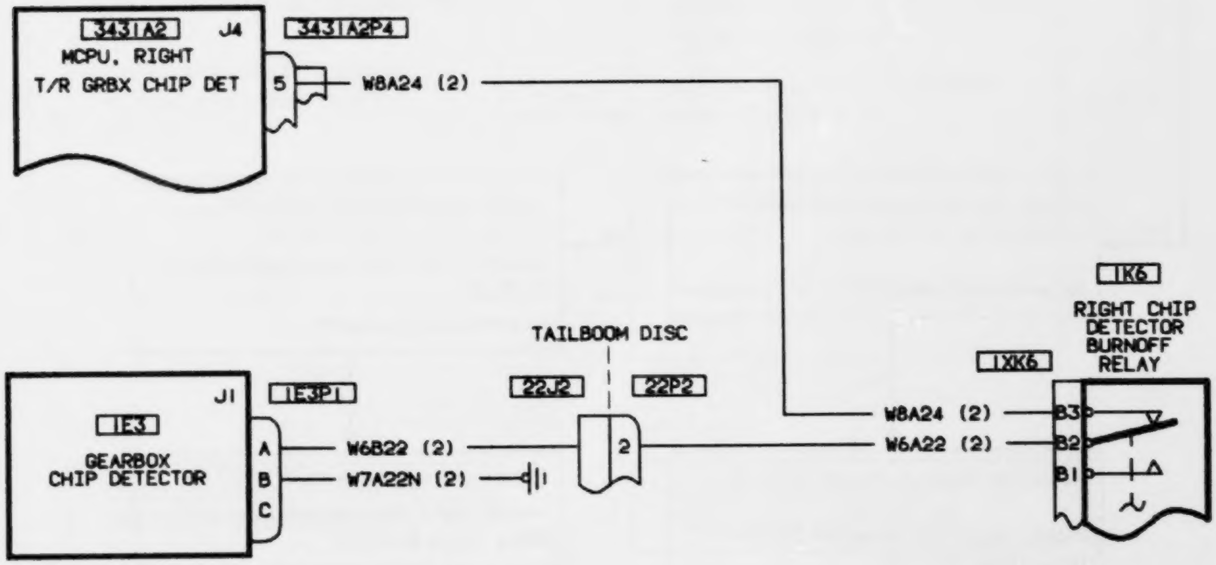
Is continuity present?

Install right chip detector burnoff relay (Task 9-6-42).

Go to CDS FDLS/BIT operational check (Tasks 9-1-7) and perform CDS BIT check.

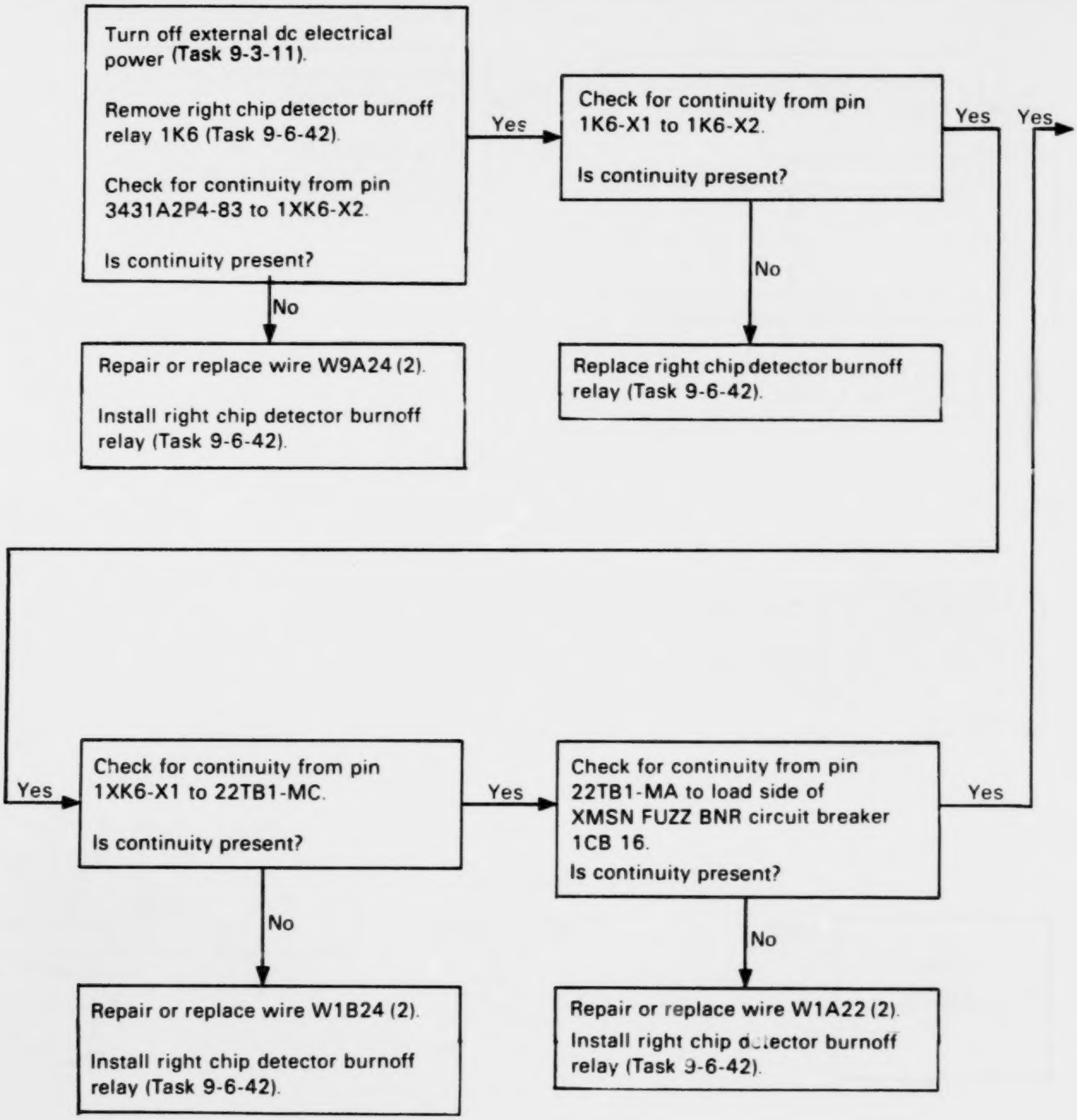
Repair or replace wire W8A24 (2).

Install right chip detector burnoff relay (Task 9-6-42).


3431A2
J4
MCPU, RIGHT
T/R GRBX CHIP DET
3431A2P4
5
W8A24 (2)
1K6
RIGHT CHIP DETECTOR BURNOFF RELAY
TAILBOOM DISC
1XK6
22J2
22P2
J1
1E3P1
1E3
GEARBOX CHIP DETECTOR
A
B
C
W6B22 (2)
W7A22N (2)
2
W8A24 (2)
W6A22 (2)
B3
B2
B1

406475-88A

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON



Turn off external dc electrical power (Task 9-3-11).

Remove right chip detector burnoff relay 1K6 (Task 9-6-42).

Check for continuity from pin 3431A2P4-83 to 1XK6-X2.

Is continuity present?

Repair or replace wire W9A24 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1K6-X1 to 1K6-X2.

Is continuity present?

Replace right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK6-X1 to 22TB1-MC.

Is continuity present?

Repair or replace wire W1B24 (2).

Install right chip detector burnoff relay (Task 9-6-42).

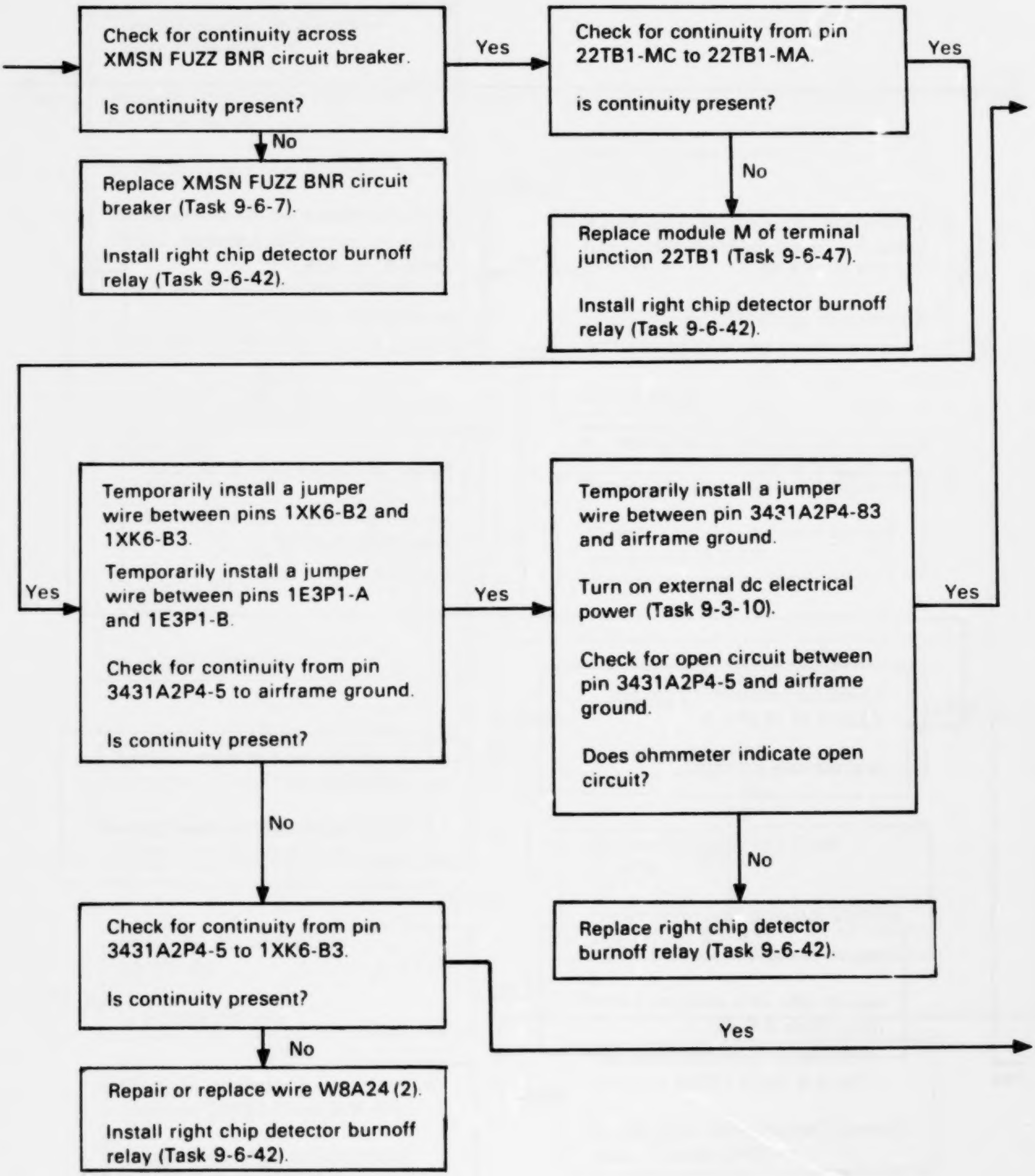
Check for continuity from pin 22TB1-MA to load side of XMSN FUZZ BNR circuit breaker 1CB 16.

Is continuity present?

Repair or replace wire W1A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity across XMSN FUZZ BNR circuit breaker.

Is continuity present?

Replace XMSN FUZZ BNR circuit breaker (Task 9-6-7).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 22TB1-MC to 22TB1-MA.

is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Temporarily install a jumper wire between pins 1XK6-B2 and 1XK6-B3.

Temporarily install a jumper wire between pins 1E3P1-A and 1E3P1-B.

Check for continuity from pin 3431A2P4-5 to airframe ground.

Is continuity present?

Temporarily install a jumper wire between pin 3431A2P4-83 and airframe ground.

Turn on external dc electrical power (Task 9-3-10).

Check for open circuit between pin 3431A2P4-5 and airframe ground.

Does ohmmeter indicate open circuit?

Replace right chip detector burnoff relay (Task 9-6-42).

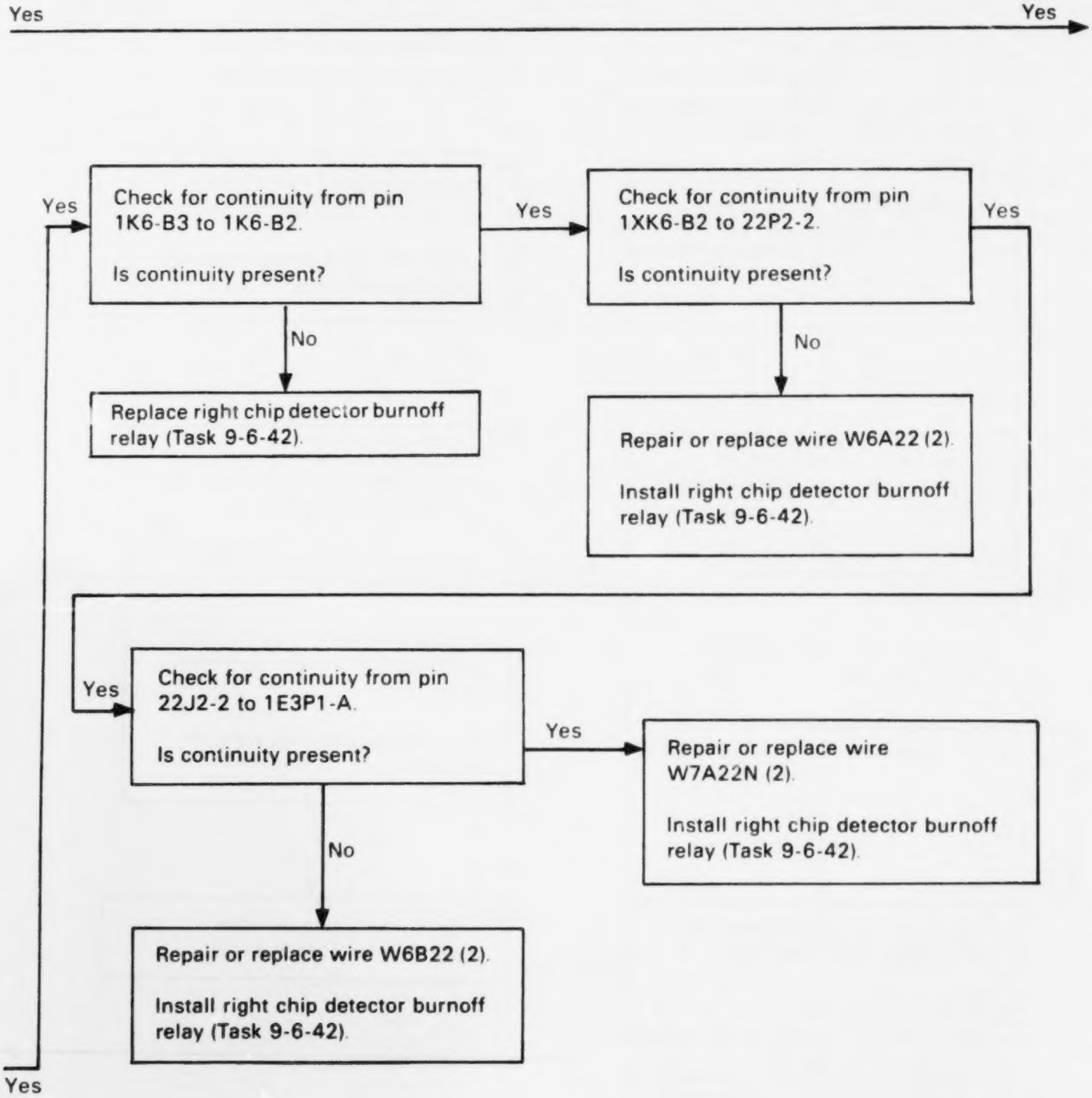
Check for continuity from pin 3431A2P4-5 to 1XK6-B3.

Is continuity present?

Repair or replace wire W8A24 (2).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from pin 1K6-B3 to 1K6-B2.

Is continuity present?

Replace right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK6-B2 to 22P2-2.

Is continuity present?

Repair or replace wire W6A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 22J2-2 to 1E3P1-A.

Is continuity present?

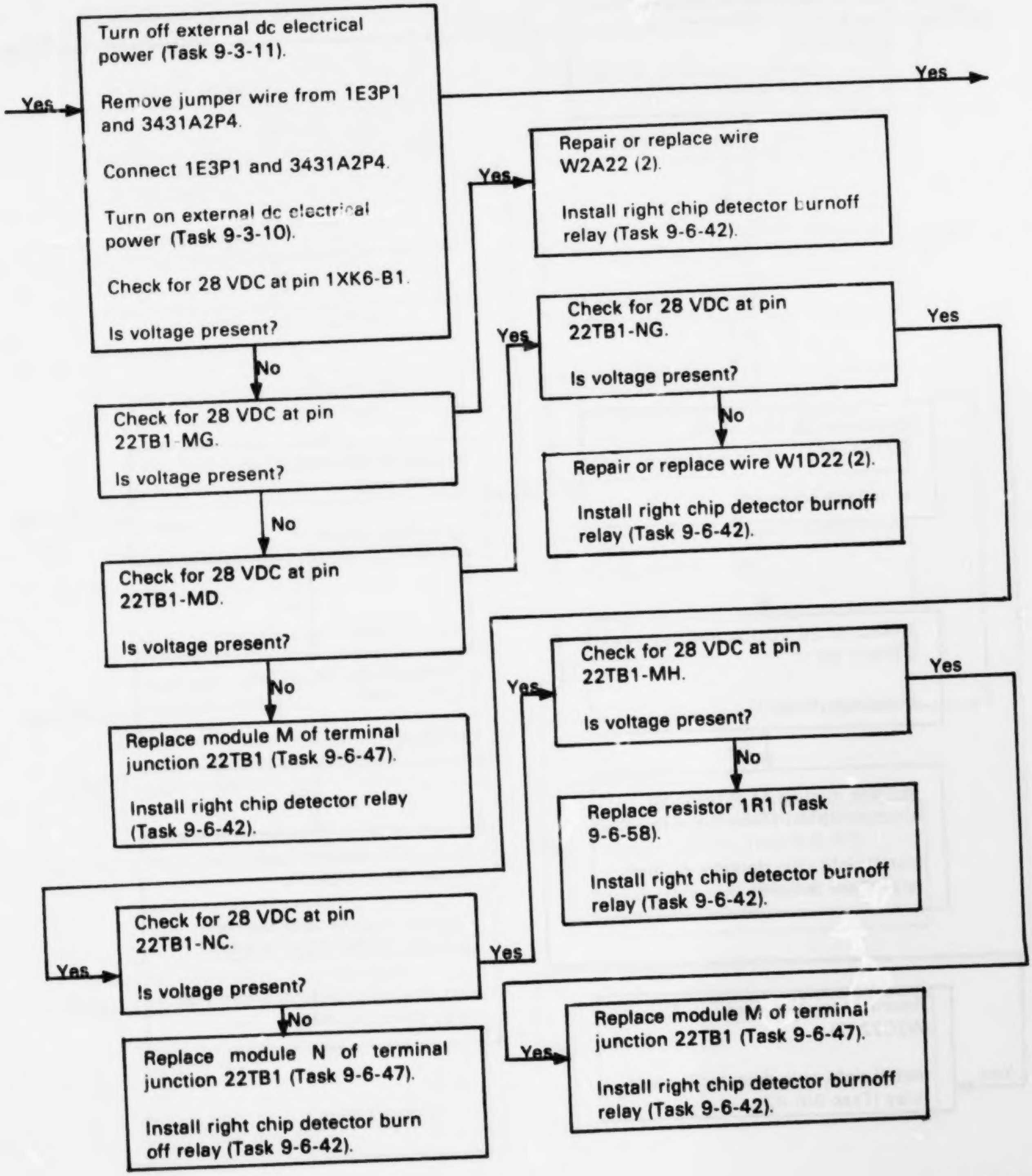
Repair or replace wire W7A22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W6B22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Remove jumper wire from 1E3P1 and 3431A2P4.

Connect 1E3P1 and 3431A2P4.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at pin 1XK6-B1.

Is voltage present?

Check for 28 VDC at pin 22TB1-MG.

Is voltage present?

Check for 28 VDC at pin 22TB1-MD.

Is voltage present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector relay (Task 9-6-42).

Repair or replace wire W2A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-NG.

Is voltage present?

Repair or replace wire W1D22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MH.

Is voltage present?

Replace resistor 1R1 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-NC.

Is voltage present?

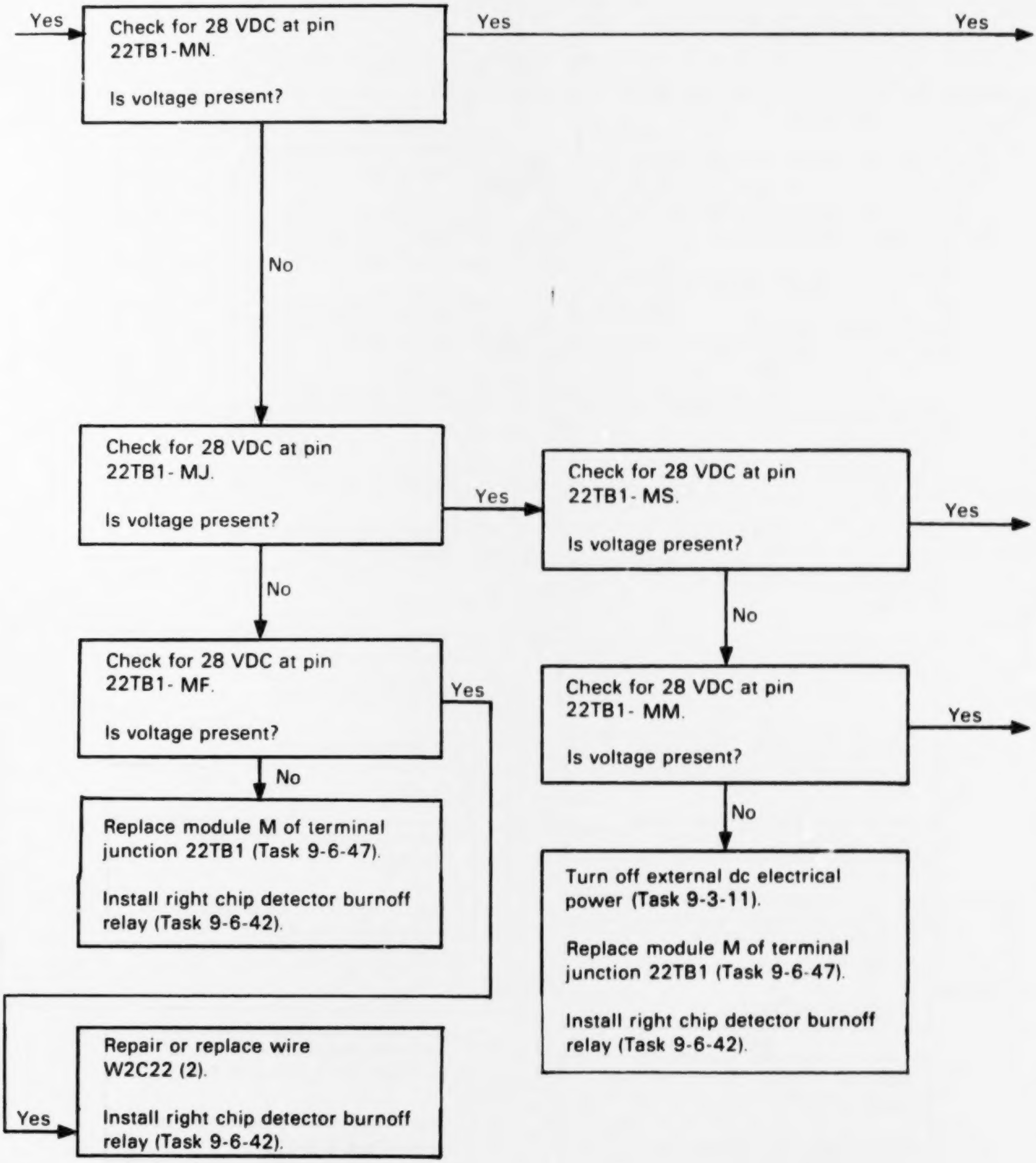
Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burn off relay (Task 9-6-42).

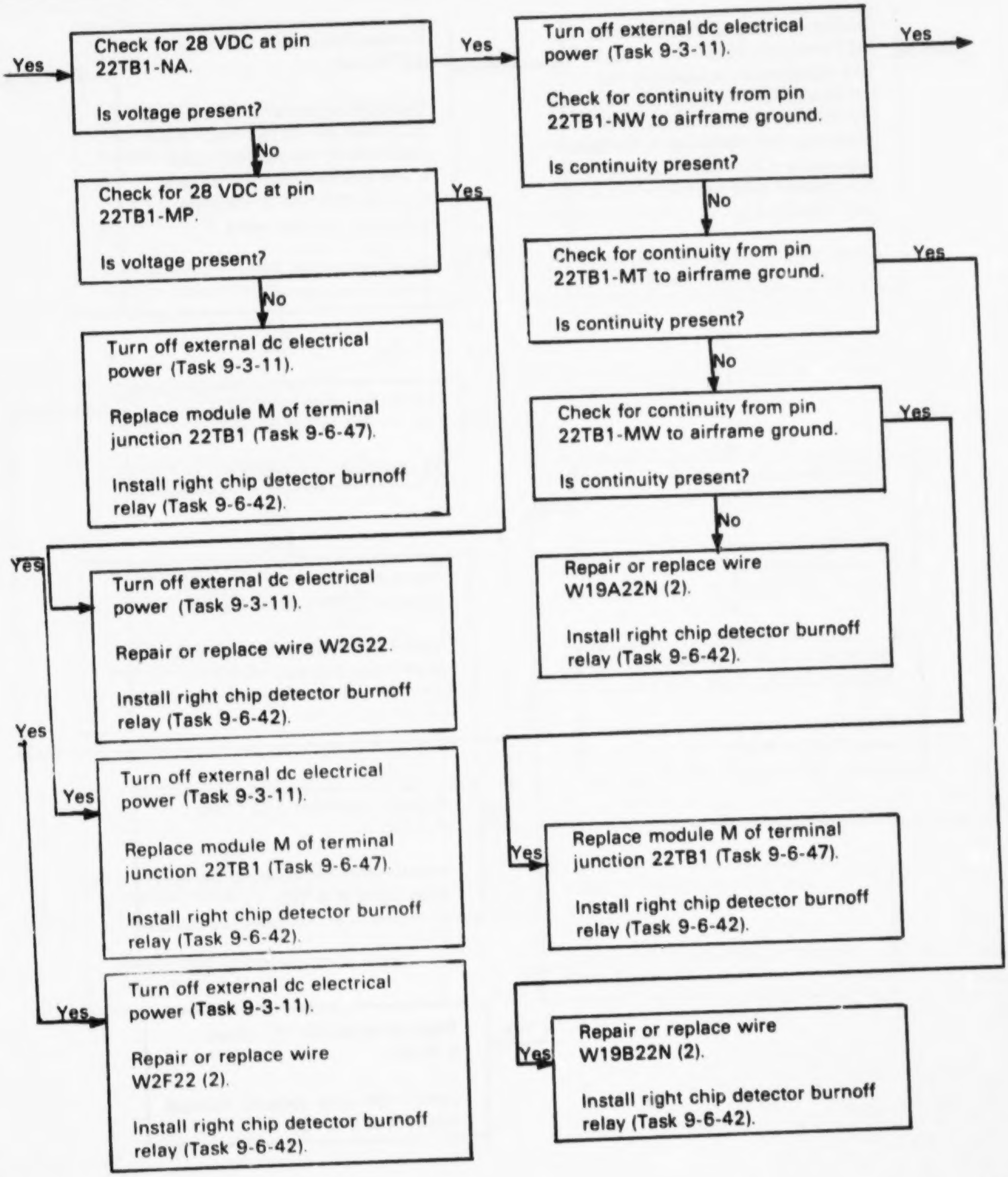
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Check for 28 VDC at pin 22TB1-MN.
Is voltage present?
Yes
Yes
No
Check for 28 VDC at pin 22TB1- MJ.
Is voltage present?
Yes
Check for 28 VDC at pin 22TB1- MS.
Is voltage present?
Yes
No
No
Check for 28 VDC at pin 22TB1- MF.
Is voltage present?
Yes
Check for 28 VDC at pin 22TB1- MM.
Is voltage present?
Yes
No
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install right chip detector burnoff relay (Task 9-6-42).
No
Turn off external dc electrical power (Task 9-3-11).
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install right chip detector burnoff relay (Task 9-6-42).
Repair or replace wire W2C22 (2).
Yes
Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for 28 VDC at pin 22TB1-NA.

Is voltage present?

Check for 28 VDC at pin 22TB1-MP.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire W2G22.

Install right chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire W2F22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 22TB1-NW to airframe ground.

Is continuity present?

Check for continuity from pin 22TB1-MT to airframe ground.

Is continuity present?

Check for continuity from pin 22TB1-MW to airframe ground.

Is continuity present?

Repair or replace wire W19A22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

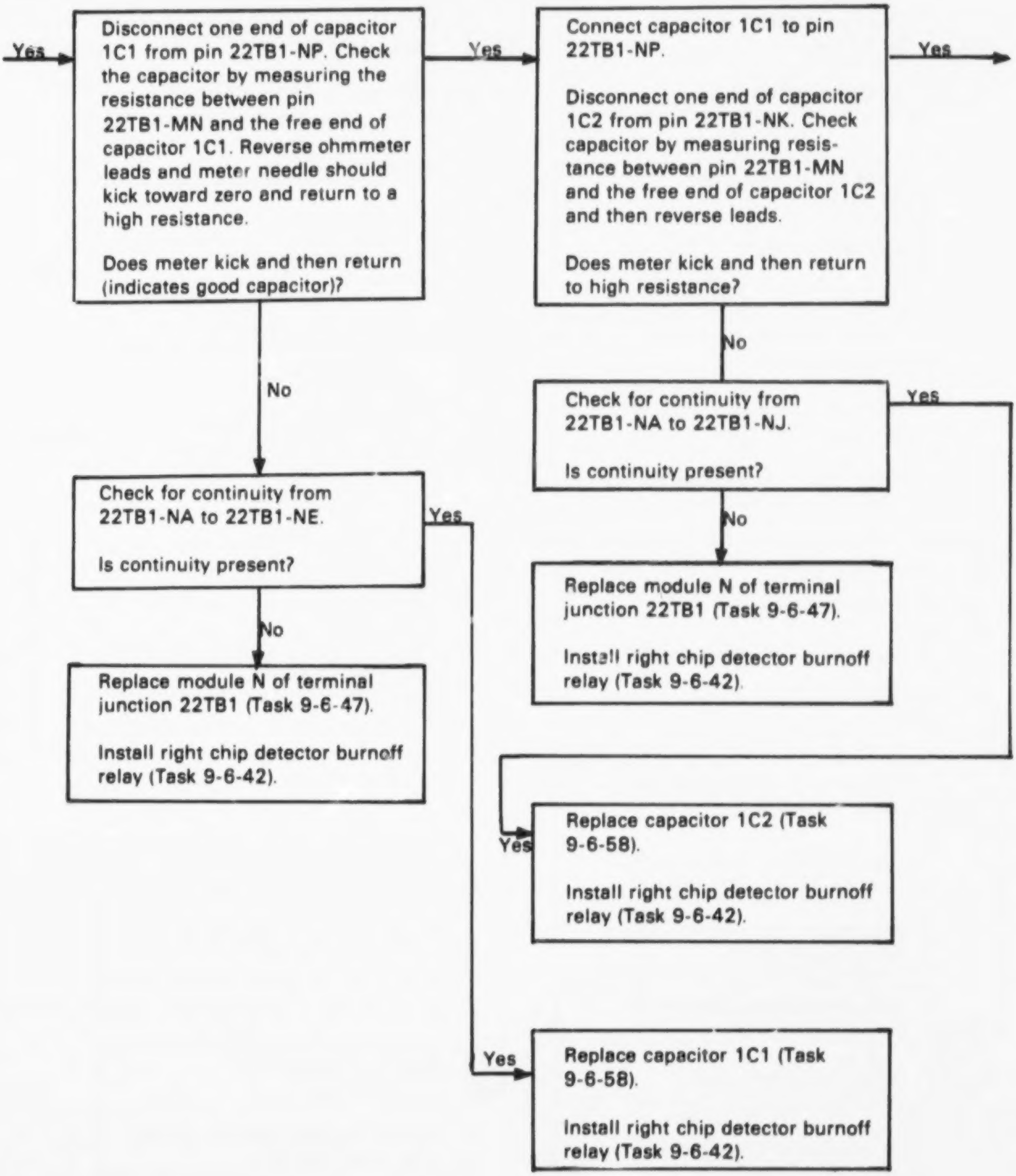
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W19B22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Disconnect one end of capacitor 1C1 from pin 22TB1-NP. Check the capacitor by measuring the resistance between pin 22TB1-MN and the free end of capacitor 1C1. Reverse ohmmeter leads and meter needle should kick toward zero and return to a high resistance.

Does meter kick and then return (indicates good capacitor)?

Connect capacitor 1C1 to pin 22TB1-NP.

Disconnect one end of capacitor 1C2 from pin 22TB1-NK. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C2 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NJ.

Is continuity present?

Check for continuity from 22TB1-NA to 22TB1-NE.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

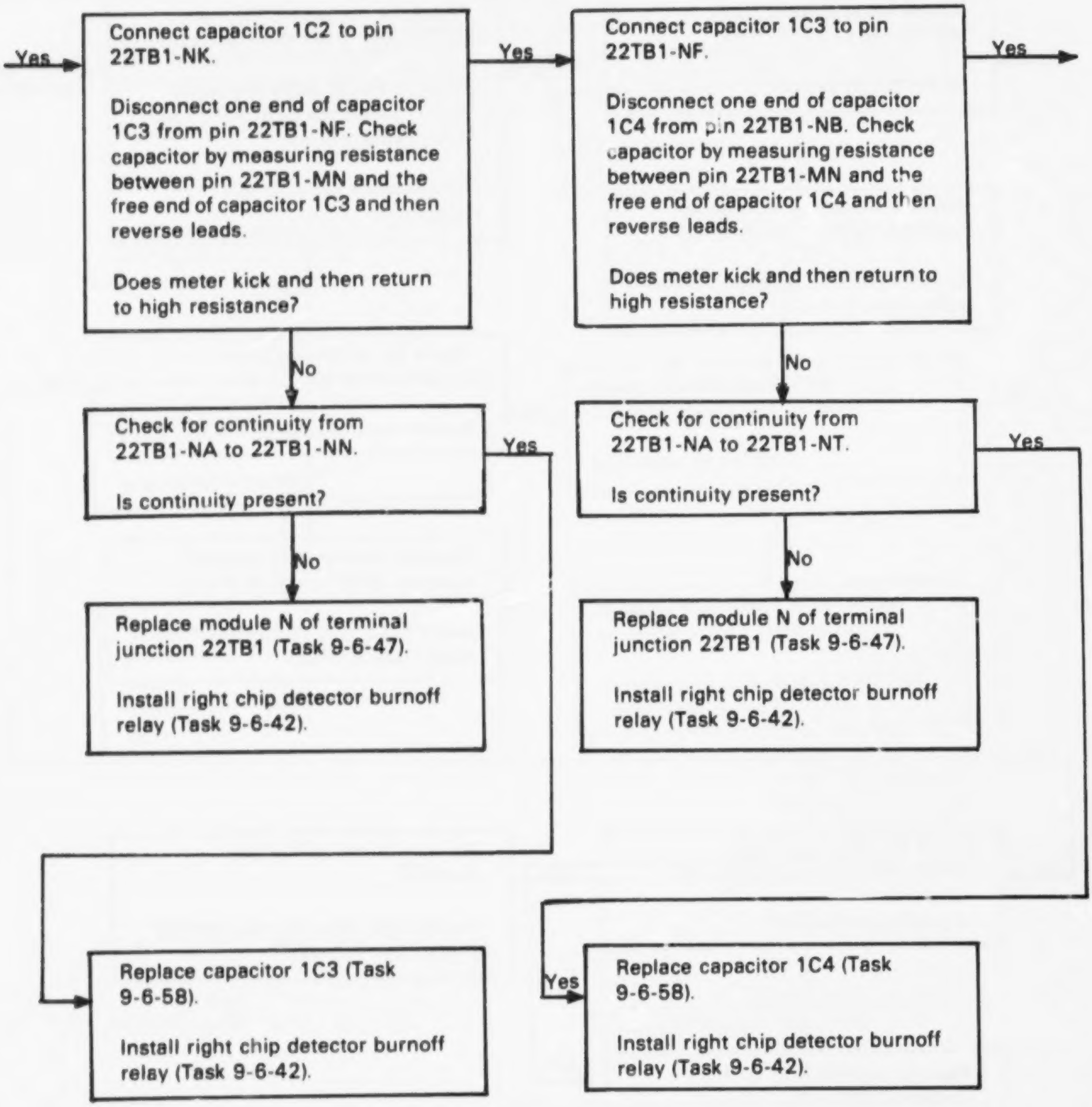
Replace capacitor 1C2 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C1 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Connect capacitor 1C2 to pin 22TB1-NK.

Disconnect one end of capacitor 1C3 from pin 22TB1-NF. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C3 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NN.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C3 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

Connect capacitor 1C3 to pin 22TB1-NF.

Disconnect one end of capacitor 1C4 from pin 22TB1-NB. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C4 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NT.

Is continuity present?

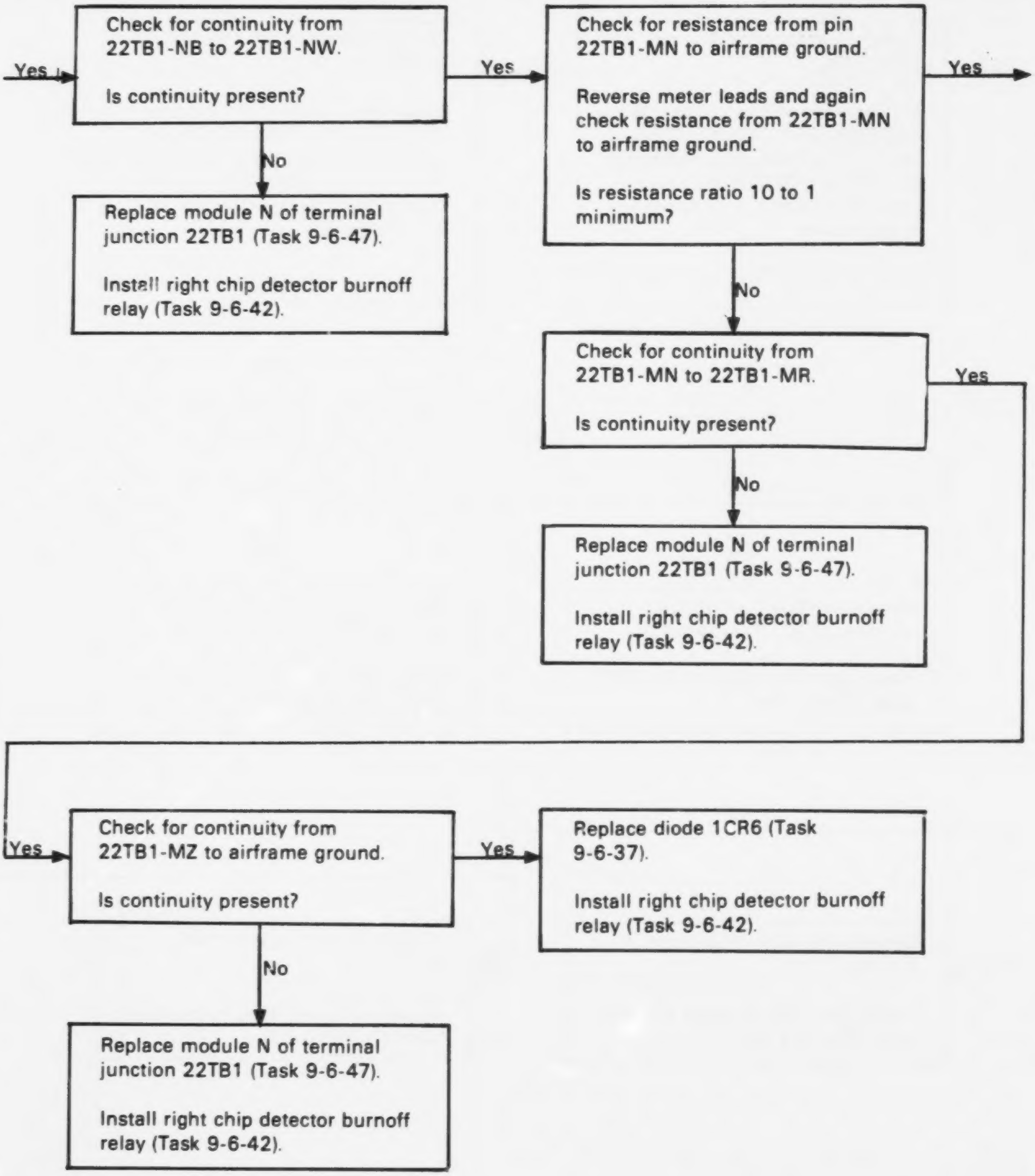
Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C4 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from 22TB1-NB to 22TB1-NW.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for resistance from pin 22TB1-MN to airframe ground.

Reverse meter leads and again check resistance from 22TB1-MN to airframe ground.

Is resistance ratio 10 to 1 minimum?

Check for continuity from 22TB1-MN to 22TB1-MR.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from 22TB1-MZ to airframe ground.

Is continuity present?

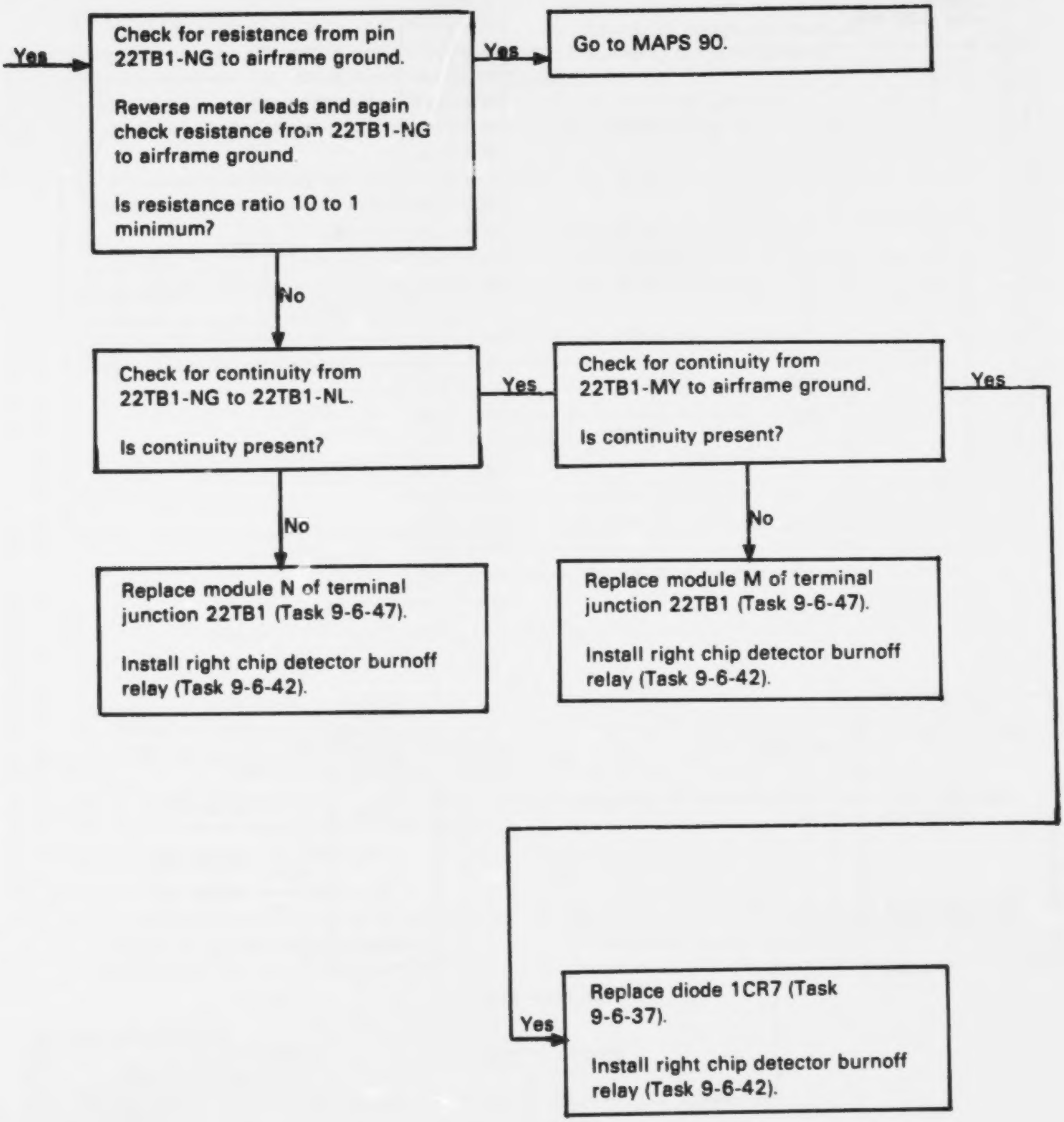
Replace diode 1CR6 (Task 9-6-37).

Install right chip detector burnoff relay (Task 9-6-42).

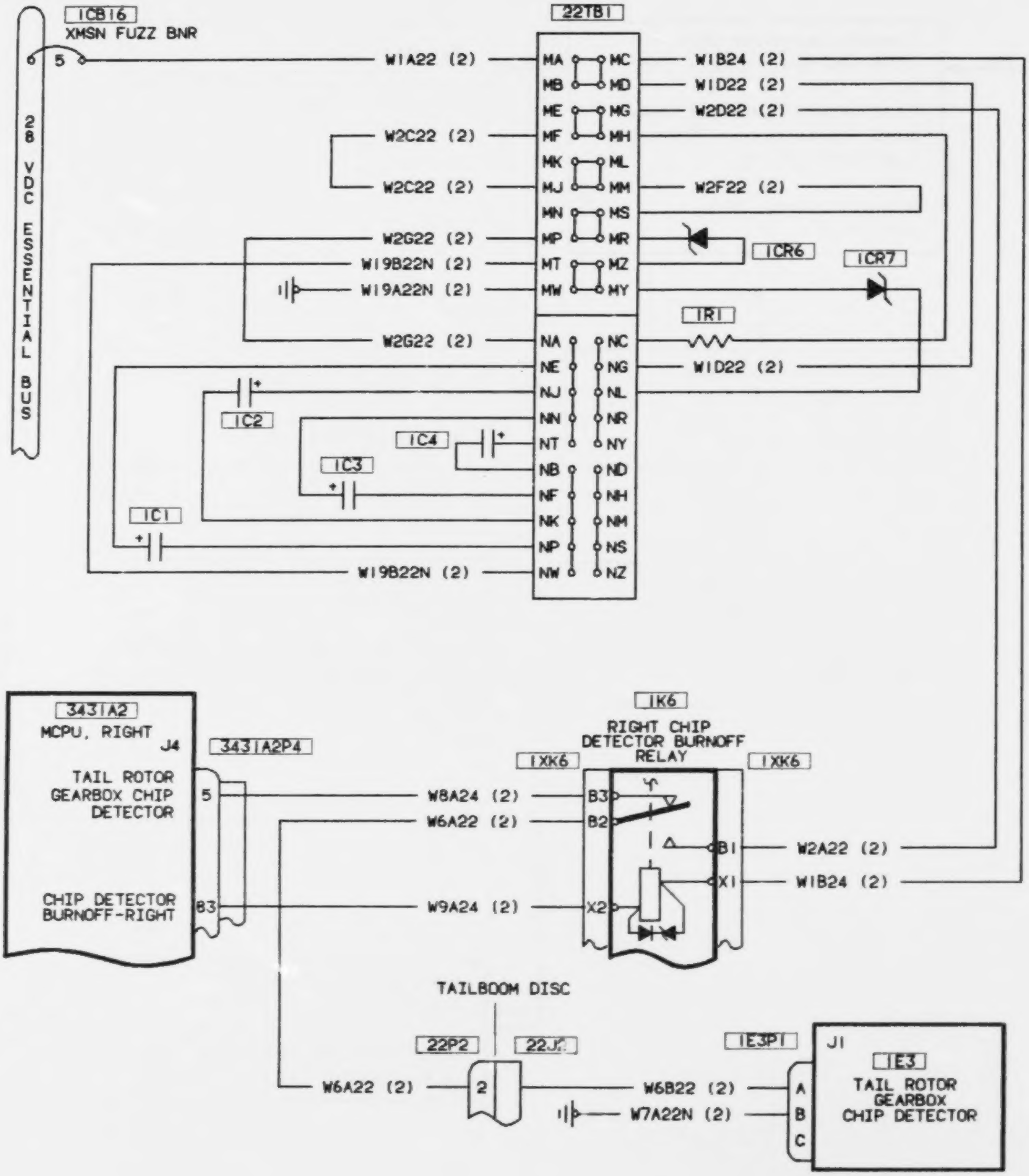
Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)

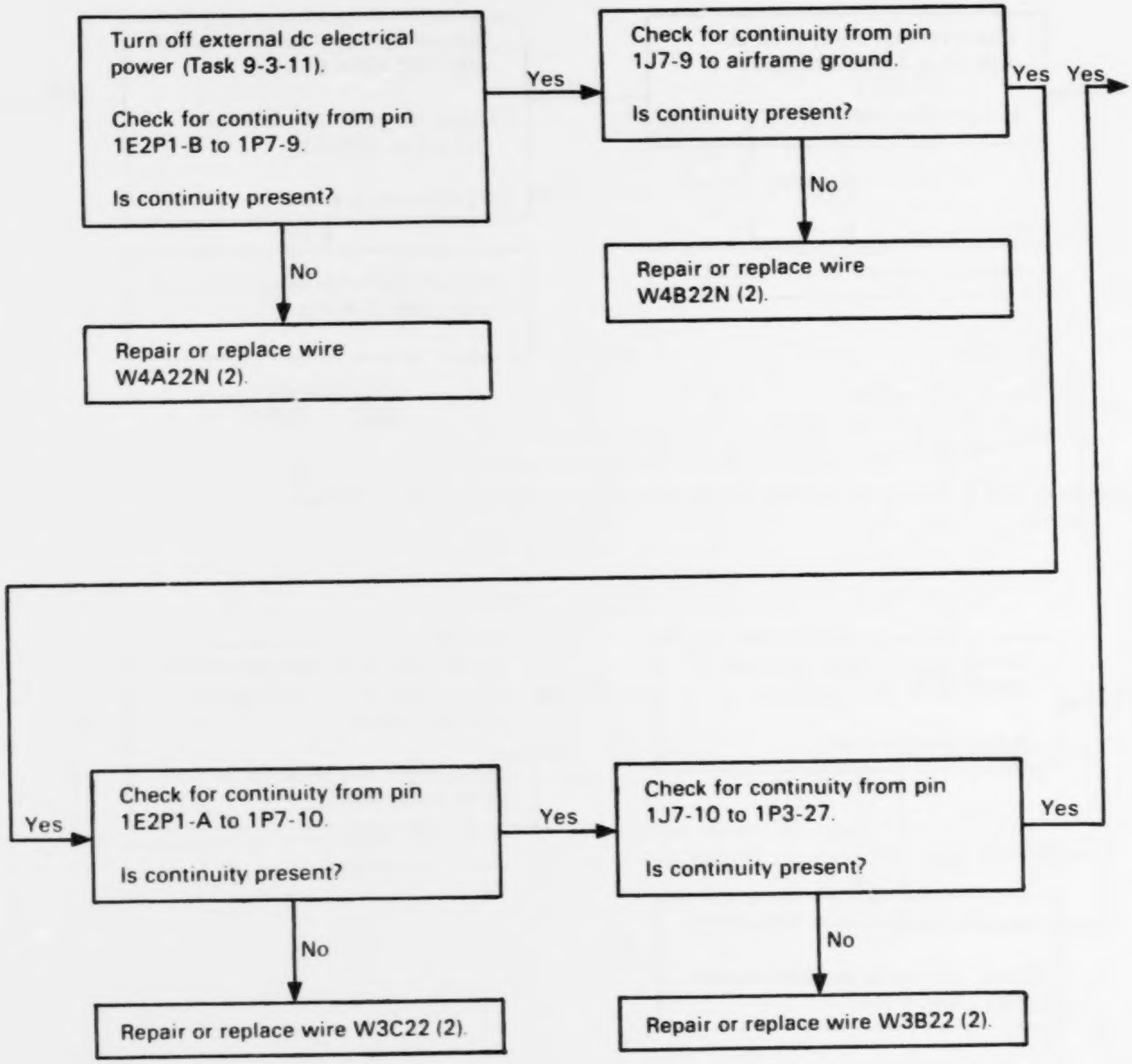

Yes
Check for resistance from pin 22TB1-NG to airframe ground. Reverse meter leads and again check resistance from 22TB1-NG to airframe ground. Is resistance ratio 10 to 1 minimum?
Yes
Go to MAPS 90.
No
Check for continuity from 22TB1-NG to 22TB1-NL. Is continuity present?
Yes
Check for continuity from 22TB1-MY to airframe ground. Is continuity present?
Yes
No
Replace module N of terminal junction 22TB1 (Task 9-6-47). Install right chip detector burnoff relay (Task 9-6-42).
No
Replace module M of terminal junction 22TB1 (Task 9-6-47). Install right chip detector burnoff relay (Task 9-6-42).
Yes
Replace diode 1CR7 (Task 9-6-37). Install right chip detector burnoff relay (Task 9-6-42).

91. TAIL ROTOR GEARBOX CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


1CB16
XMSN FUZZ BNR
5
28 VDC ESSENTIAL BUS
22TB1
W1A22 (2)
W2C22 (2)
W2C22 (2)
W2G22 (2)
W19B22N (2)
W19A22N (2)
W2G22 (2)
W19B22N (2)
MA MC
MB MD
ME MG
MF MH
MK ML
MJ MM
MN MS
MP MR
MT MZ
MW MY
NA NC
NE NG
NJ NL
NN NR
NT NY
NB ND
NF NH
NK NM
NP NS
NW NZ
W1B24 (2)
W1D22 (2)
W2D22 (2)
W2F22 (2)
1CR6
1CR7
1R1
W1D22 (2)
1C2
1C4
1C3
1C1
3431A2
MCPU, RIGHT
J4
3431A2P4
TAIL ROTOR GEARBOX CHIP DETECTOR
5
CHIP DETECTOR BURNOFF-RIGHT
B3
W8A24 (2)
W6A22 (2)
W9A24 (2)
1K6
RIGHT CHIP DETECTOR BURNOFF RELAY
1XK6
1XK6
B3
B2
B1
X1
X2
W2A22 (2)
W1B24 (2)
TAILBOOM DISC
22P2
22J2
2
W6A22 (2)
W6B22 (2)
W7A22N (2)
1E3P1
J1
1E3
TAIL ROTOR GEARBOX CHIP DETECTOR
A
B
C

406475-92B

92. CAUTION MESSAGE CHIP XMSN UPPER DOES NOT COME ON (CONNECTOR 1E2P1 CONNECTED TO SPECIAL TEST TOOL AND SWITCH SET TO ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1E2P1-B to 1P7-9.

Is continuity present?

Repair or replace wire W4A22N (2).

Check for continuity from pin 1J7-9 to airframe ground.

Is continuity present?

Repair or replace wire W4B22N (2).

Check for continuity from pin 1E2P1-A to 1P7-10.

Is continuity present?

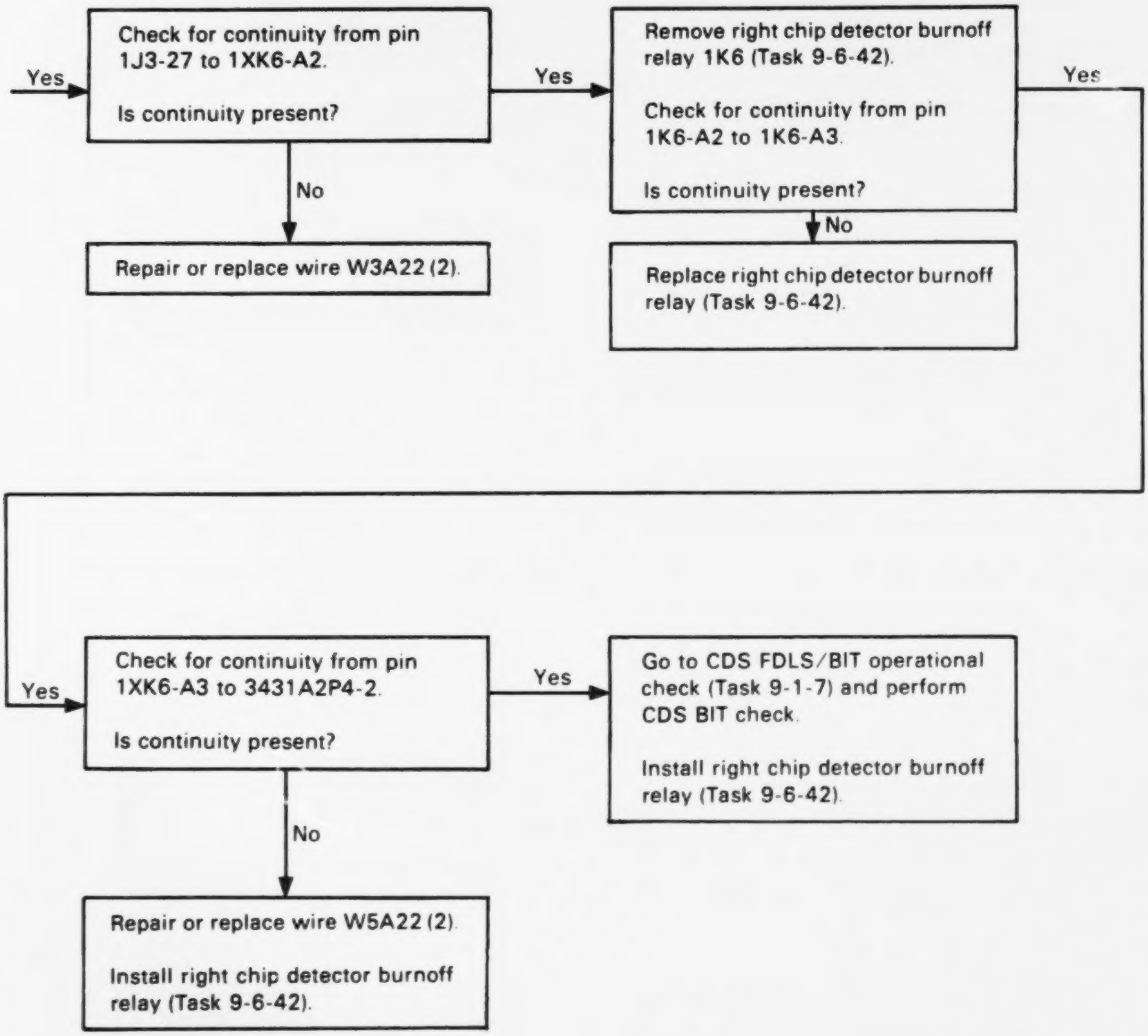
Repair or replace wire W3C22 (2).

Check for continuity from pin 1J7-10 to 1P3-27.

Is continuity present?

Repair or replace wire W3B22 (2).

92. CAUTION MESSAGE CHIP XMSN UPPER DOES NOT COME ON (CONNECTOR 1E2P1 CONNECTED TO SPECIAL TEST TOOL AND SWITCH SET TO ON) (CONT)



Check for continuity from pin 1J3-27 to 1XK6-A2.

Is continuity present?

Repair or replace wire W3A22 (2).

Remove right chip detector burnoff relay 1K6 (Task 9-6-42).

Check for continuity from pin 1K6-A2 to 1K6-A3.

Is continuity present?

Replace right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK6-A3 to 3431A2P4-2.

Is continuity present?

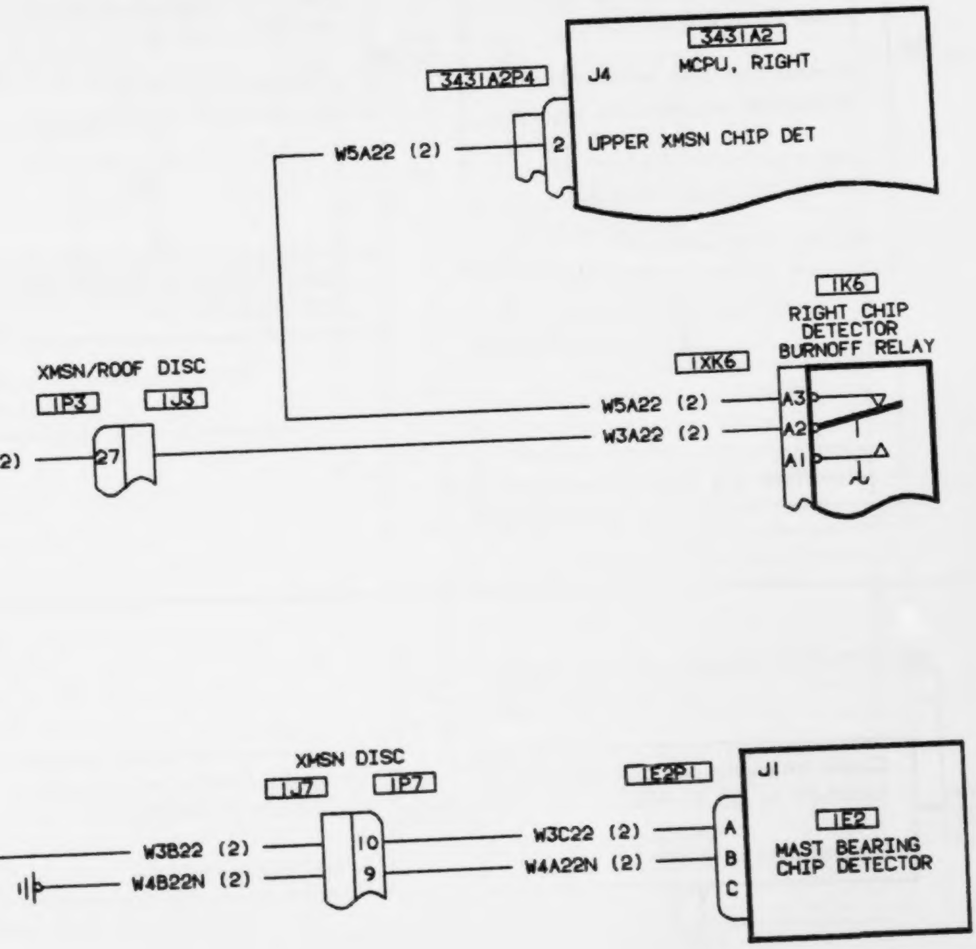
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W5A22 (2).

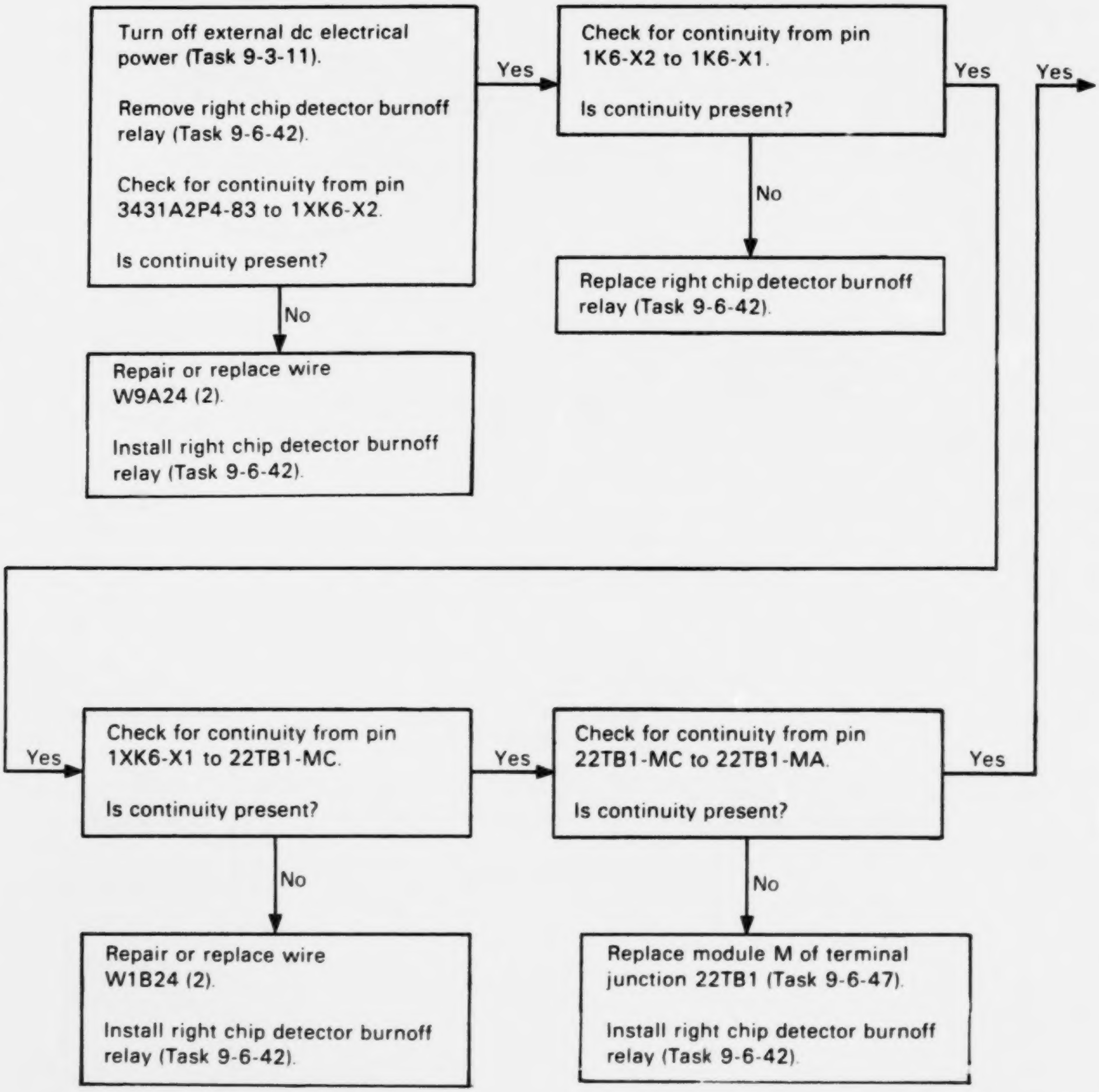
Install right chip detector burnoff relay (Task 9-6-42).

92. CAUTION MESSAGE CHIP XMSN UPPER DOES NOT COME ON (CONNECTOR 1E2P1 CONNECTED TO SPECIAL TEST TOOL AND SWITCH SET TO ON) (CONT)


3431A2
MCPU, RIGHT
3431A2P4
J4
2
UPPER XMSN CHIP DET
W5A22 (2)
1K6
RIGHT CHIP DETECTOR BURNOFF RELAY
1XK6
W5A22 (2)
W3A22 (2)
A3
A2
A1
XMSN/ROOF DISC
1P3
1J3
W3B22 (2)
27
XMSN DISC
1J7
1P7
1E2P1
J1
1E2
MAST BEARING CHIP DETECTOR
W3B22 (2)
W4B22N (2)
10
9
W3C22 (2)
W4A22N (2)
A
B
C

406475-91A

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON)



Turn off external dc electrical power (Task 9-3-11).

Remove right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 3431A2P4-83 to 1XK6-X2.

Is continuity present?

Repair or replace wire W9A24 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1K6-X2 to 1K6-X1.

Is continuity present?

Replace right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK6-X1 to 22TB1-MC.

Is continuity present?

Repair or replace wire W1B24 (2).

Install right chip detector burnoff relay (Task 9-6-42).

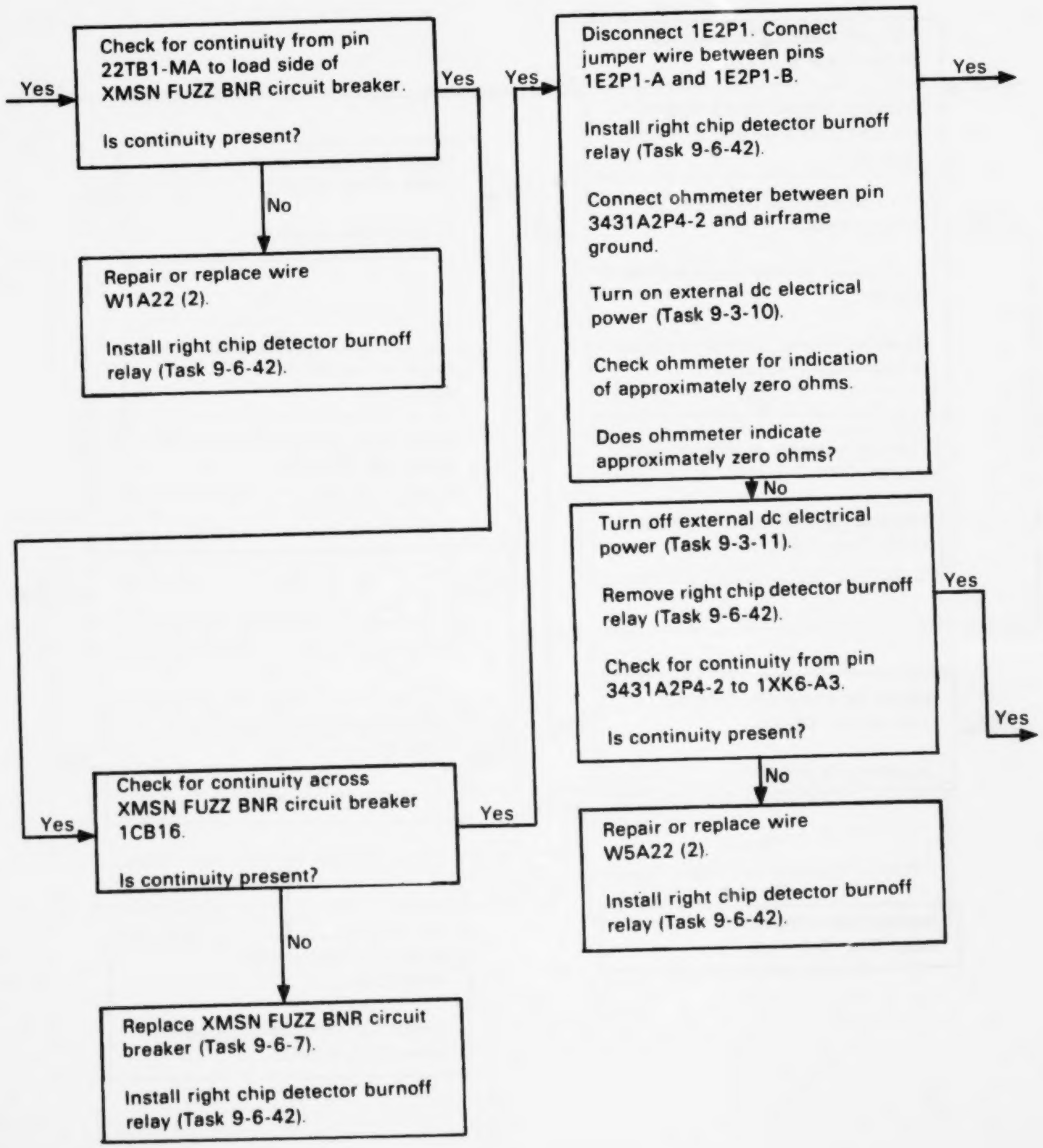
Check for continuity from pin 22TB1-MC to 22TB1-MA.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)



Check for continuity from pin 22TB1-MA to load side of XMSN FUZZ BNR circuit breaker.

Is continuity present?

Repair or replace wire W1A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity across XMSN FUZZ BNR circuit breaker 1CB16.

Is continuity present?

Replace XMSN FUZZ BNR circuit breaker (Task 9-6-7).

Install right chip detector burnoff relay (Task 9-6-42).

Disconnect 1E2P1. Connect jumper wire between pins 1E2P1-A and 1E2P1-B.

Install right chip detector burnoff relay (Task 9-6-42).

Connect ohmmeter between pin 3431A2P4-2 and airframe ground.

Turn on external dc electrical power (Task 9-3-10).

Check ohmmeter for indication of approximately zero ohms.

Does ohmmeter indicate approximately zero ohms?

Turn off external dc electrical power (Task 9-3-11).

Remove right chip detector burnoff relay (Task 9-6-42).

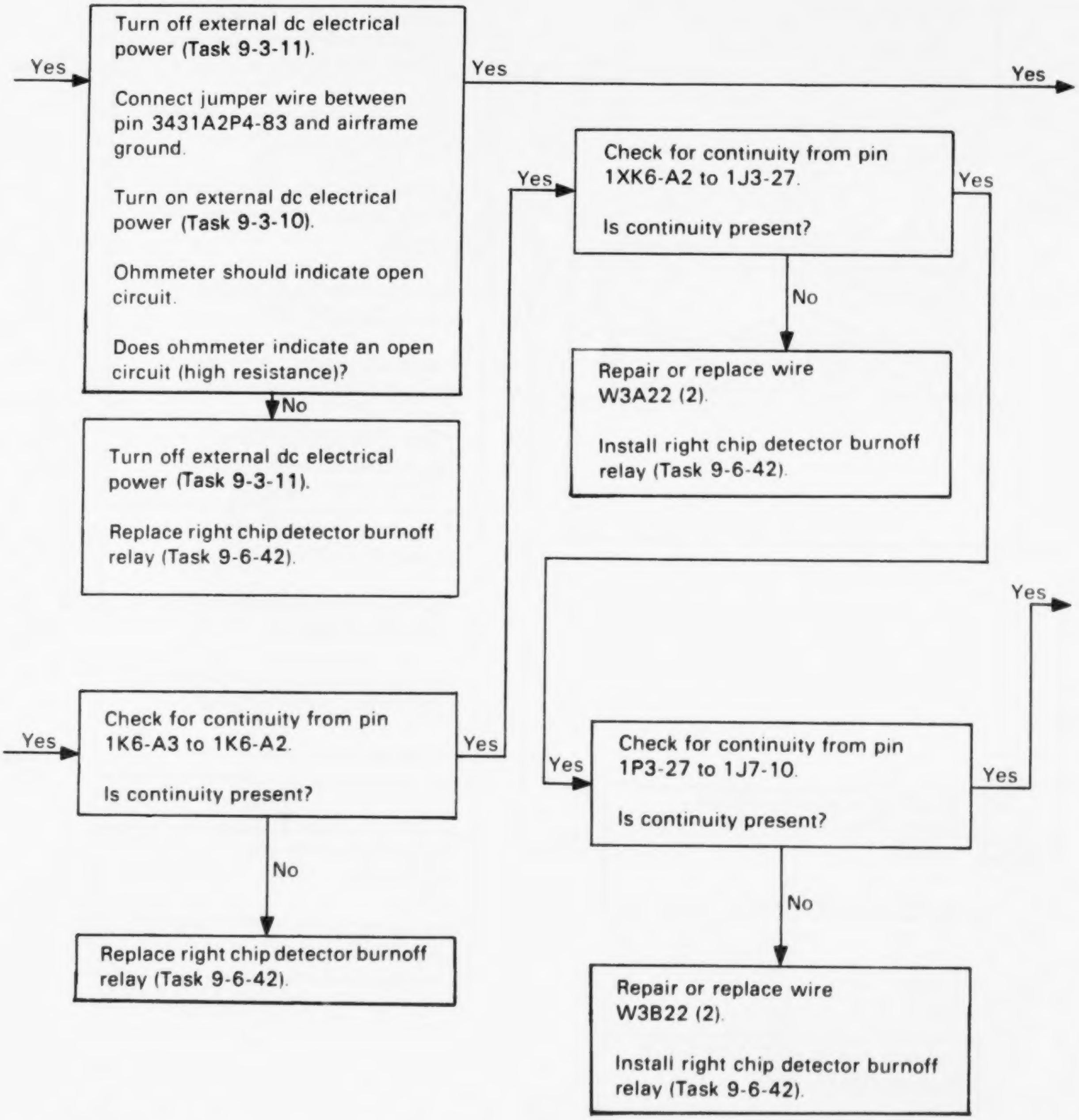
Check for continuity from pin 3431A2P4-2 to 1XK6-A3.

Is continuity present?

Repair or replace wire W5A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)



Turn off external dc electrical power (Task 9-3-11).

Connect jumper wire between pin 3431A2P4-83 and airframe ground.

Turn on external dc electrical power (Task 9-3-10).

Ohmmeter should indicate open circuit.

Does ohmmeter indicate an open circuit (high resistance)?

Turn off external dc electrical power (Task 9-3-11).

Replace right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK6-A2 to 1J3-27.

Is continuity present?

Repair or replace wire W3A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1K6-A3 to 1K6-A2.

Is continuity present?

Replace right chip detector burnoff relay (Task 9-6-42).

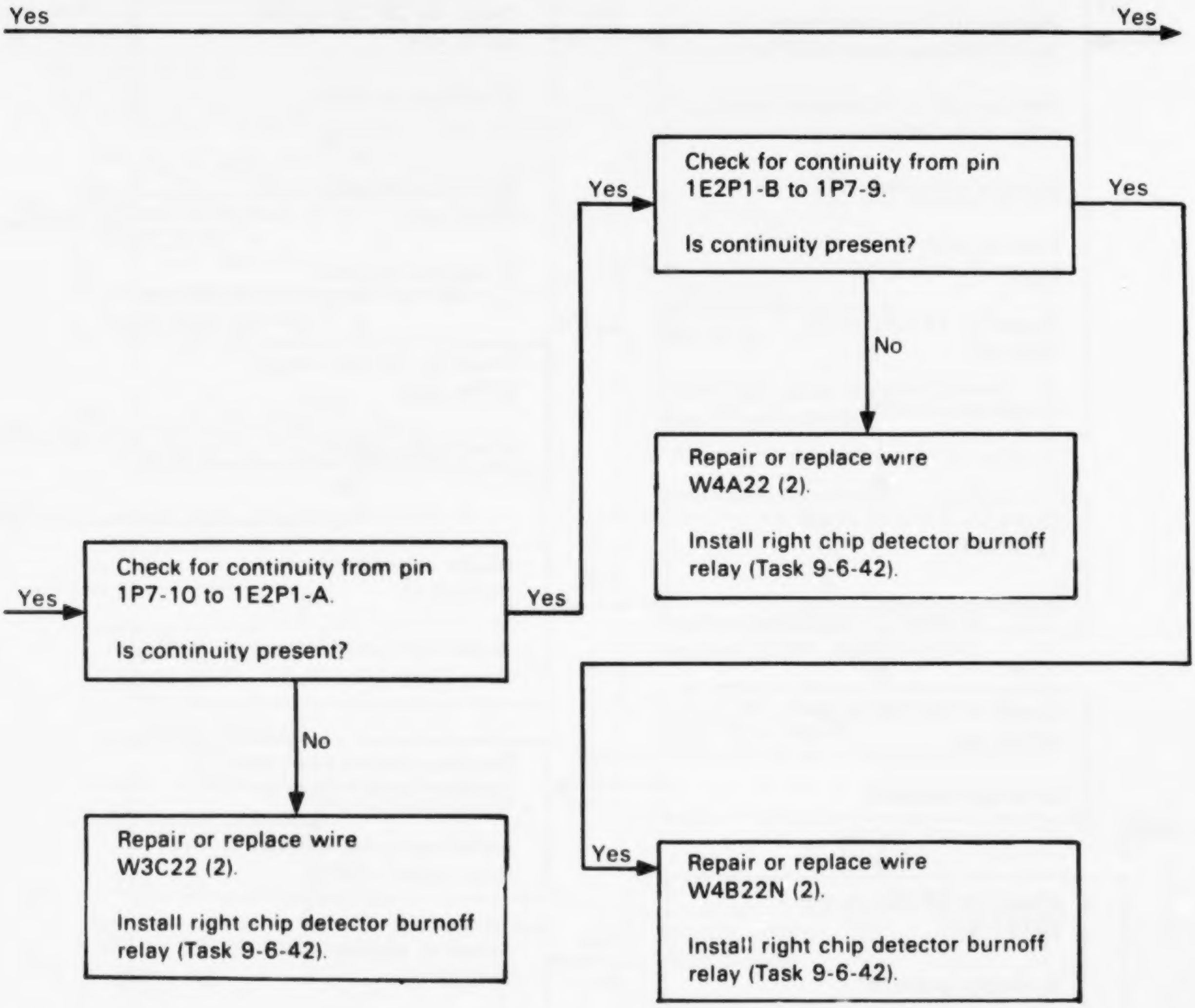
Check for continuity from pin 1P3-27 to 1J7-10.

Is continuity present?

Repair or replace wire W3B22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)



Check for continuity from pin 1P7-10 to 1E2P1-A.

Is continuity present?

Repair or replace wire W3C22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1E2P1-B to 1P7-9.

Is continuity present?

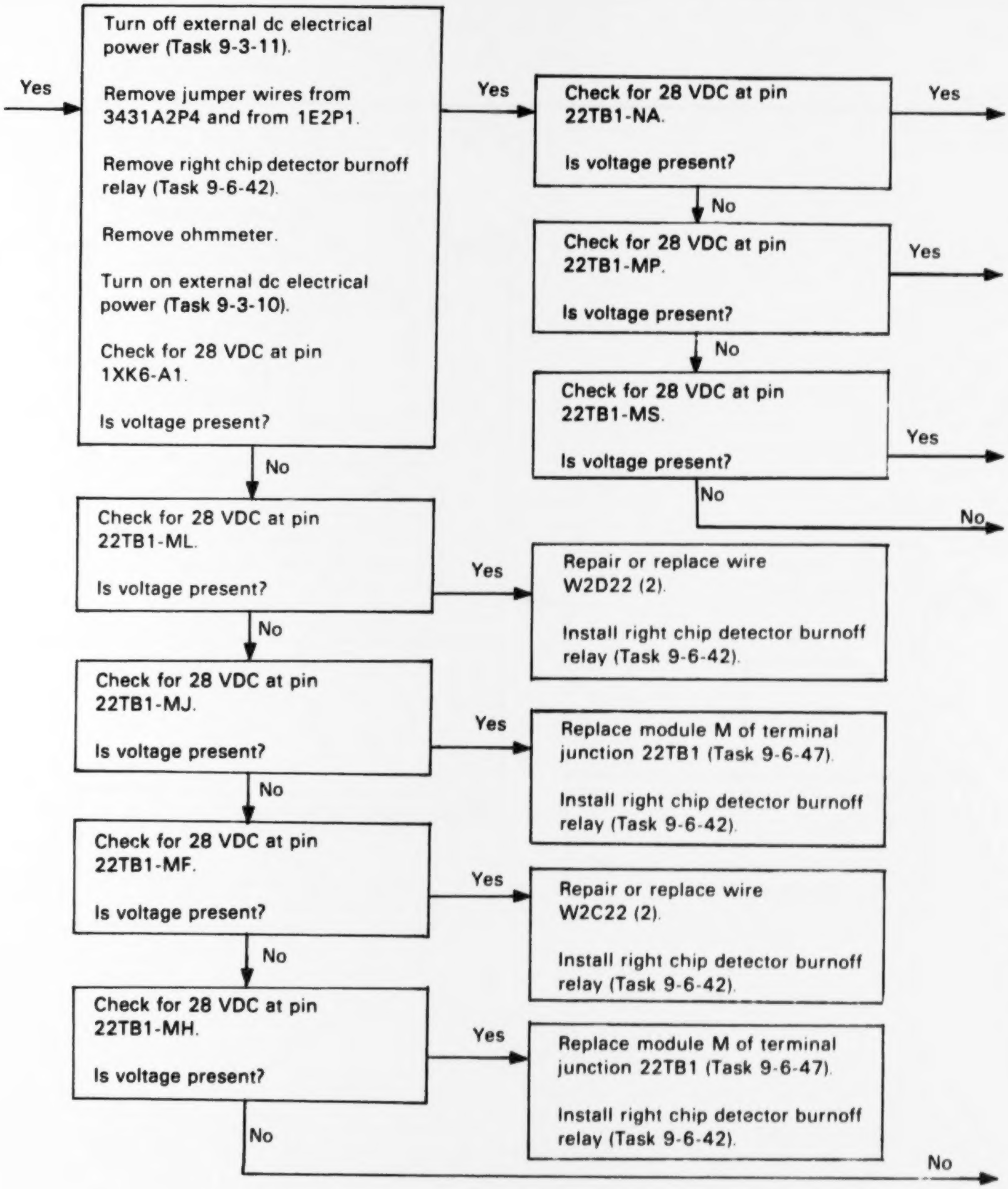
Repair or replace wire W4A22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W4B22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)



Turn off external dc electrical power (Task 9-3-11).

Remove jumper wires from 3431A2P4 and from 1E2P1.

Remove right chip detector burnoff relay (Task 9-6-42).

Remove ohmmeter.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at pin 1XK6-A1.

Is voltage present?

Check for 28 VDC at pin 22TB1-NA.

Is voltage present?

Check for 28 VDC at pin 22TB1-MP.

Is voltage present?

Check for 28 VDC at pin 22TB1-MS.

Is voltage present?

Check for 28 VDC at pin 22TB1-ML.

Is voltage present?

Repair or replace wire W2D22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MJ.

Is voltage present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MF.

Is voltage present?

Repair or replace wire W2C22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

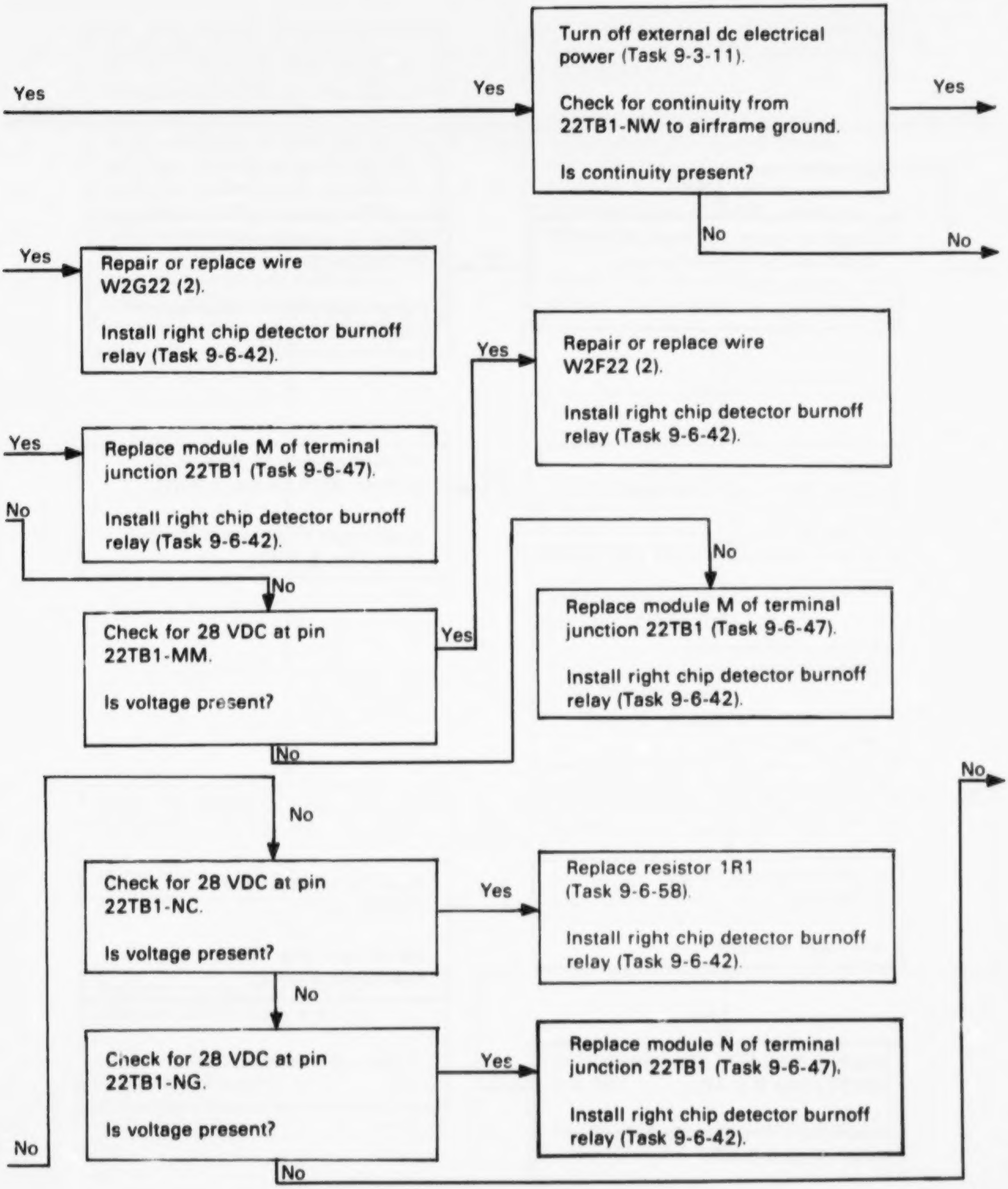
Check for 28 VDC at pin 22TB1-MH.

Is voltage present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 22TB1-NW to airframe ground.

Is continuity present?

Repair or replace wire W2G22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W2F22 (2).

Install right chip detector burnoff relay (Task 9-6-42).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MM.

Is voltage present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-NC.

Is voltage present?

Replace resistor 1R1 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

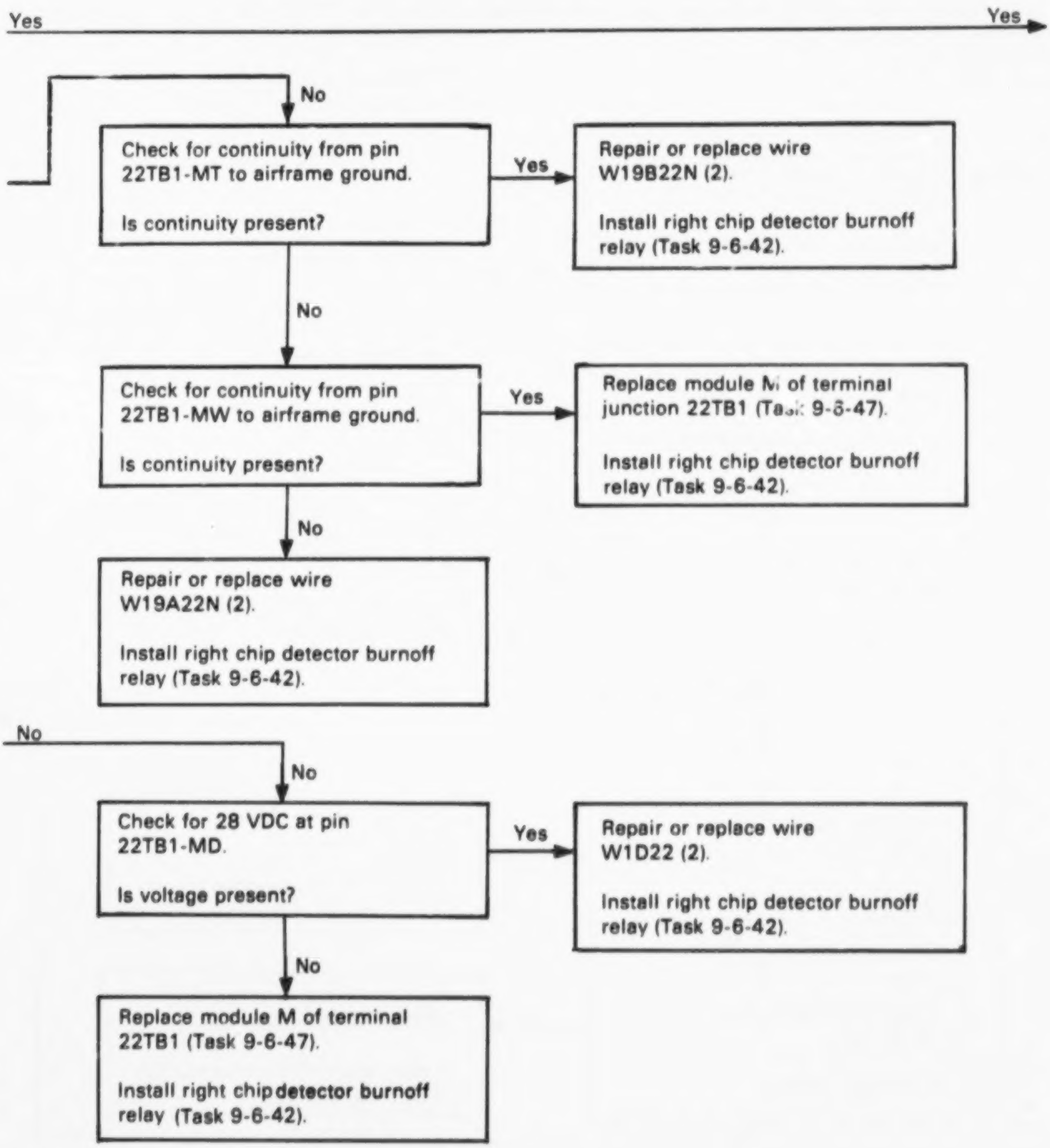
Check for 28 VDC at pin 22TB1-NG.

Is voltage present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from pin 22TB1-MT to airframe ground.

Is continuity present?

Repair or replace wire W19B22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 22TB1-MW to airframe ground.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W19A22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MD.

Is voltage present?

Repair or replace wire W1D22 (2).

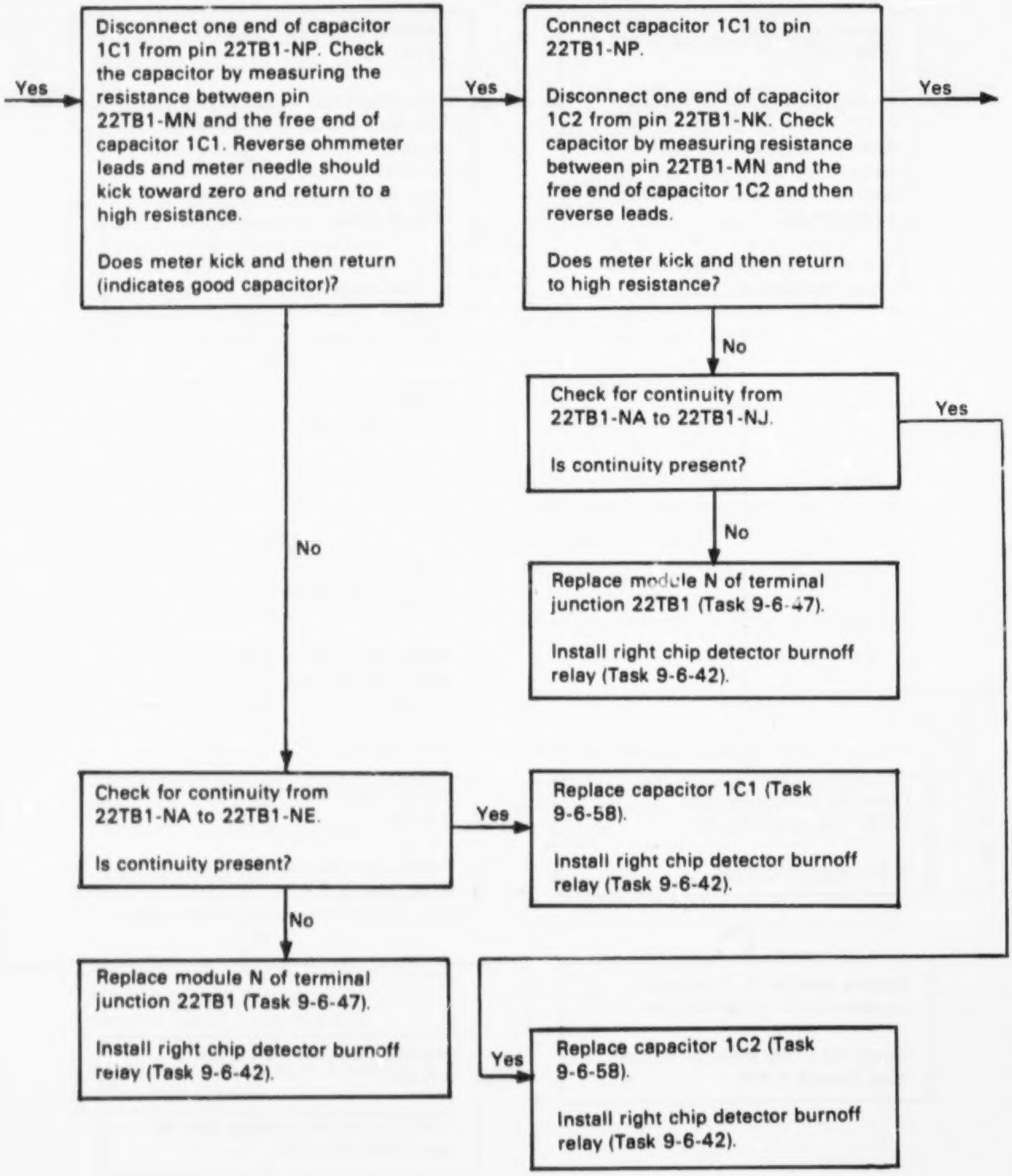
Install right chip detector burnoff relay (Task 9-6-42).

Replace module M of terminal 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

]

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Disconnect one end of capacitor 1C1 from pin 22TB1-NP. Check the capacitor by measuring the resistance between pin 22TB1-MN and the free end of capacitor 1C1. Reverse ohmmeter leads and meter needle should kick toward zero and return to a high resistance.

Does meter kick and then return (indicates good capacitor)?

Connect capacitor 1C1 to pin 22TB1-NP.

Disconnect one end of capacitor 1C2 from pin 22TB1-NK. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C2 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NJ.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from 22TB1-NA to 22TB1-NE.

Is continuity present?

Replace capacitor 1C1 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

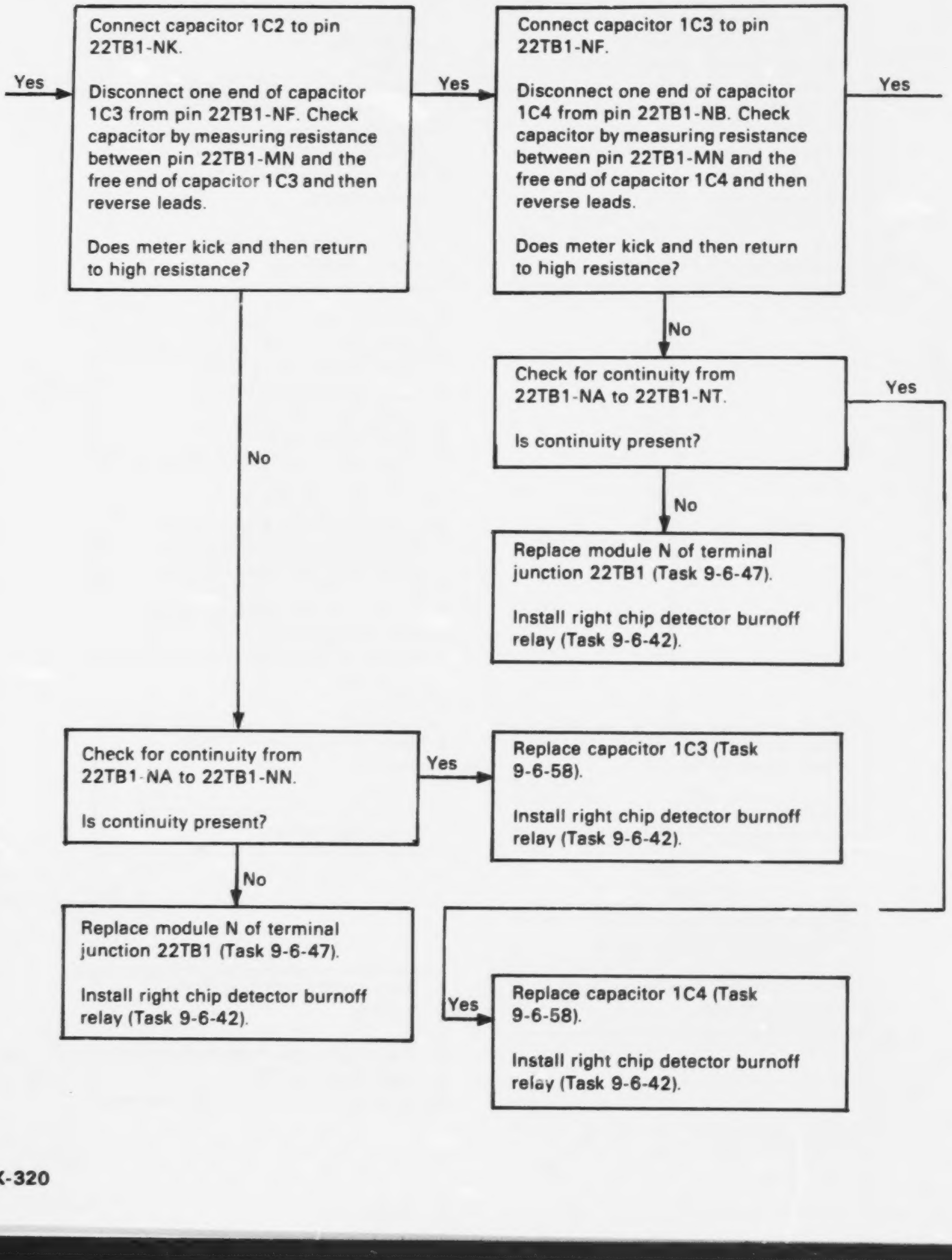
Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

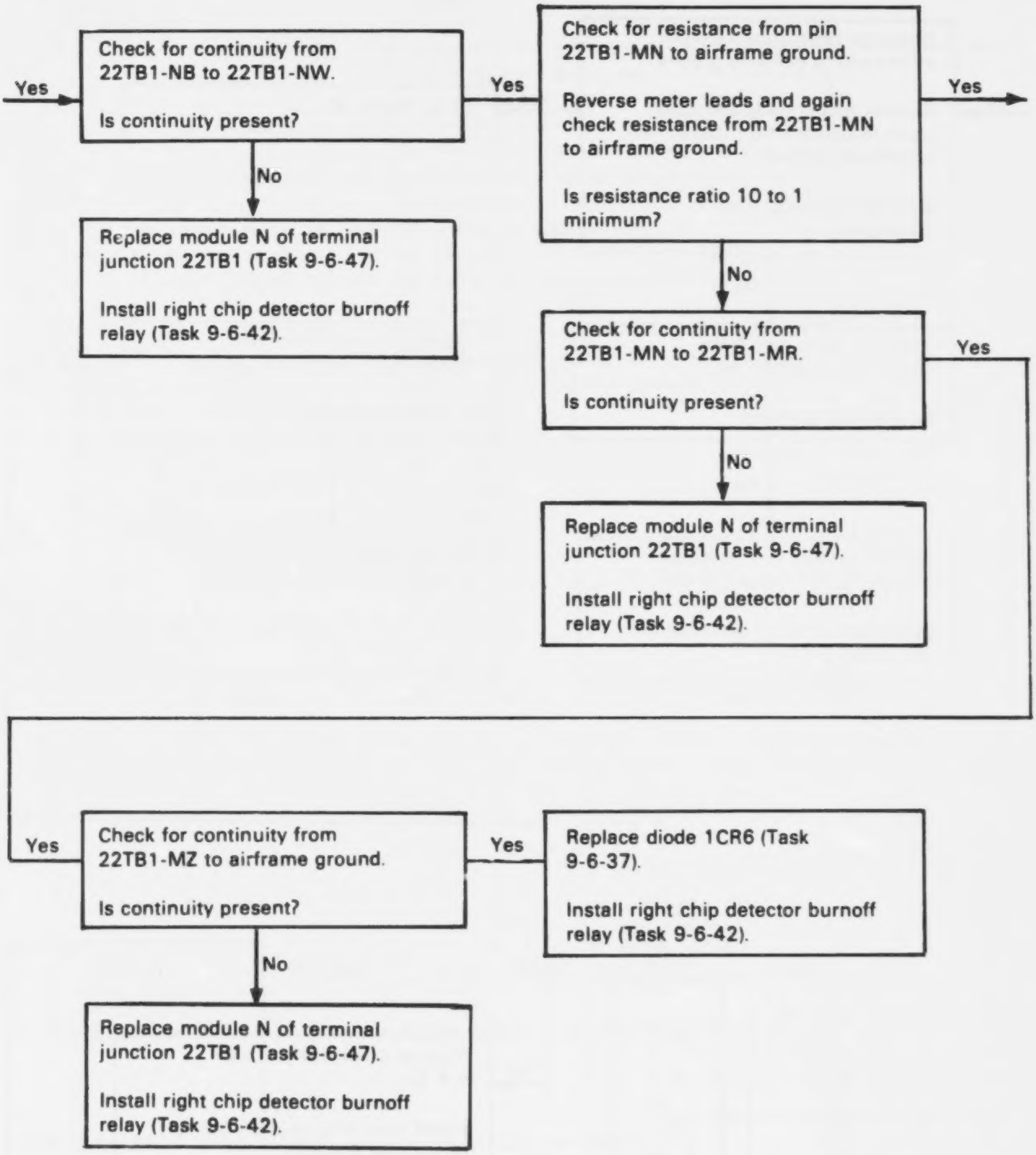
Replace capacitor 1C2 (Task 9-6-58).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Connect capacitor 1C2 to pin 22TB1-NK. Disconnect one end of capacitor 1C3 from pin 22TB1-NF. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C3 and then reverse leads. Does meter kick and then return to high resistance?
Yes
Connect capacitor 1C3 to pin 22TB1-NF. Disconnect one end of capacitor 1C4 from pin 22TB1-NB. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C4 and then reverse leads. Does meter kick and then return to high resistance?
Yes
No
Check for continuity from 22TB1-NA to 22TB1-NT. Is continuity present?
Yes
No
Replace module N of terminal junction 22TB1 (Task 9-6-47). Install right chip detector burnoff relay (Task 9-6-42).
No
Check for continuity from 22TB1-NA to 22TB1-NN. Is continuity present?
Yes
Replace capacitor 1C3 (Task 9-6-58). Install right chip detector burnoff relay (Task 9-6-42).
No
Replace module N of terminal junction 22TB1 (Task 9-6-47). Install right chip detector burnoff relay (Task 9-6-42).
Yes
Replace capacitor 1C4 (Task 9-6-58). Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from 22TB1-NB to 22TB1-NW.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for resistance from pin 22TB1-MN to airframe ground.

Reverse meter leads and again check resistance from 22TB1-MN to airframe ground.

Is resistance ratio 10 to 1 minimum?

Check for continuity from 22TB1-MN to 22TB1-MR.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from 22TB1-MZ to airframe ground.

Is continuity present?

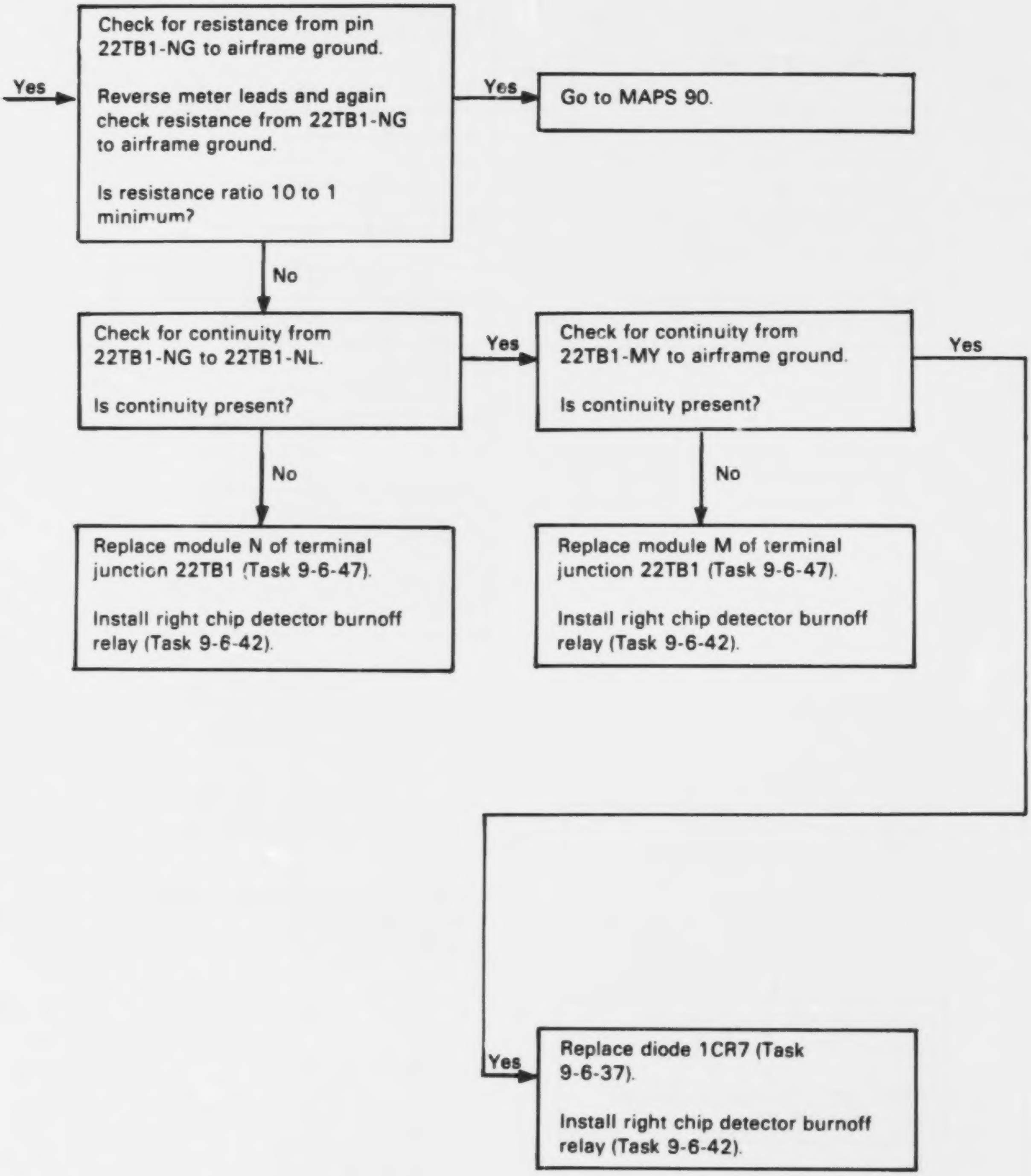
Replace diode 1CR6 (Task 9-6-37).

Install right chip detector burnoff relay (Task 9-6-42).

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for resistance from pin 22TB1-NG to airframe ground.

Reverse meter leads and again check resistance from 22TB1-NG to airframe ground.

Is resistance ratio 10 to 1 minimum?

Go to MAPS 90.

Check for continuity from 22TB1-NG to 22TB1-NL.

Is continuity present?

Check for continuity from 22TB1-MY to airframe ground.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

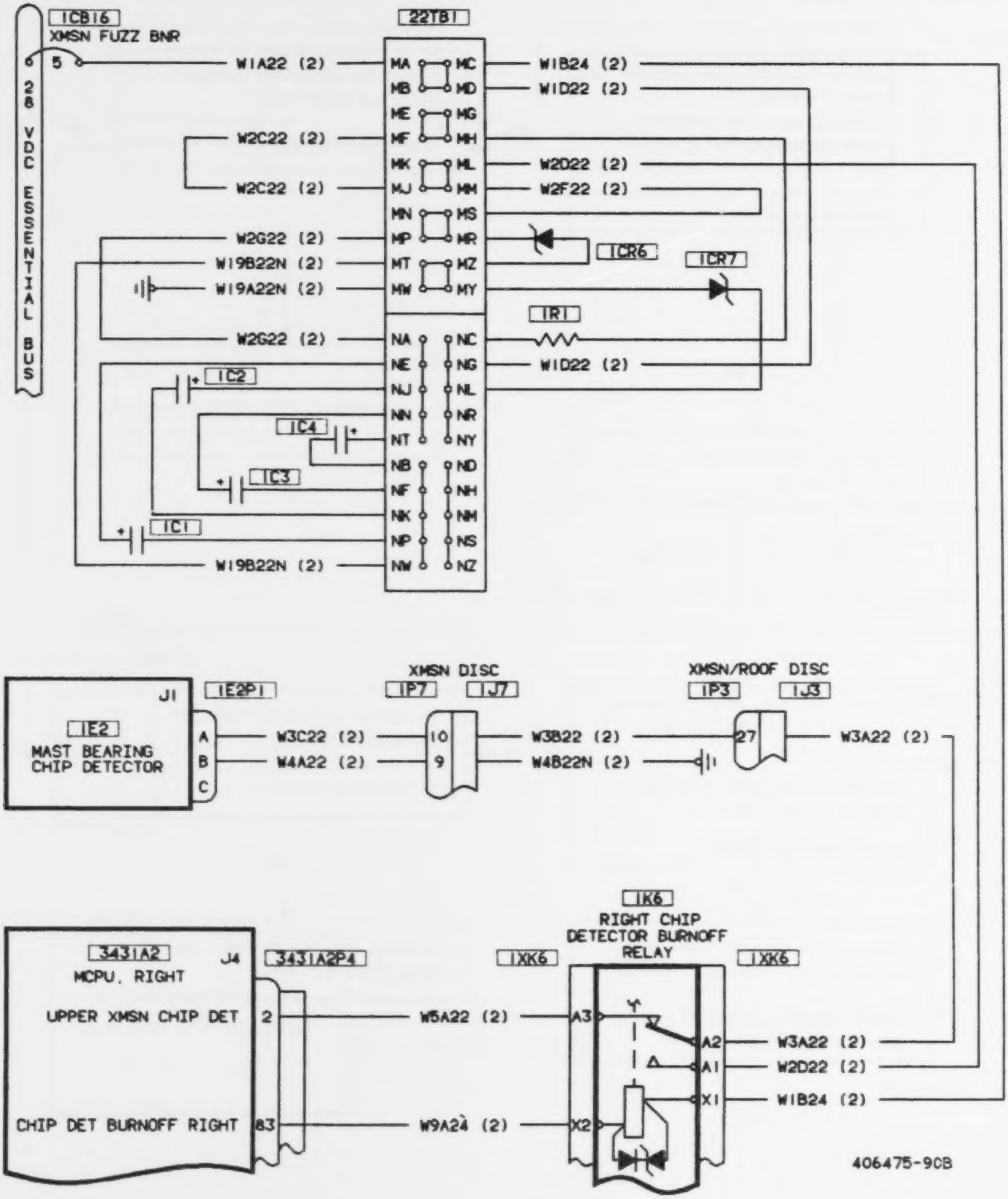
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install right chip detector burnoff relay (Task 9-6-42).

Replace diode 1CR7 (Task 9-6-37).

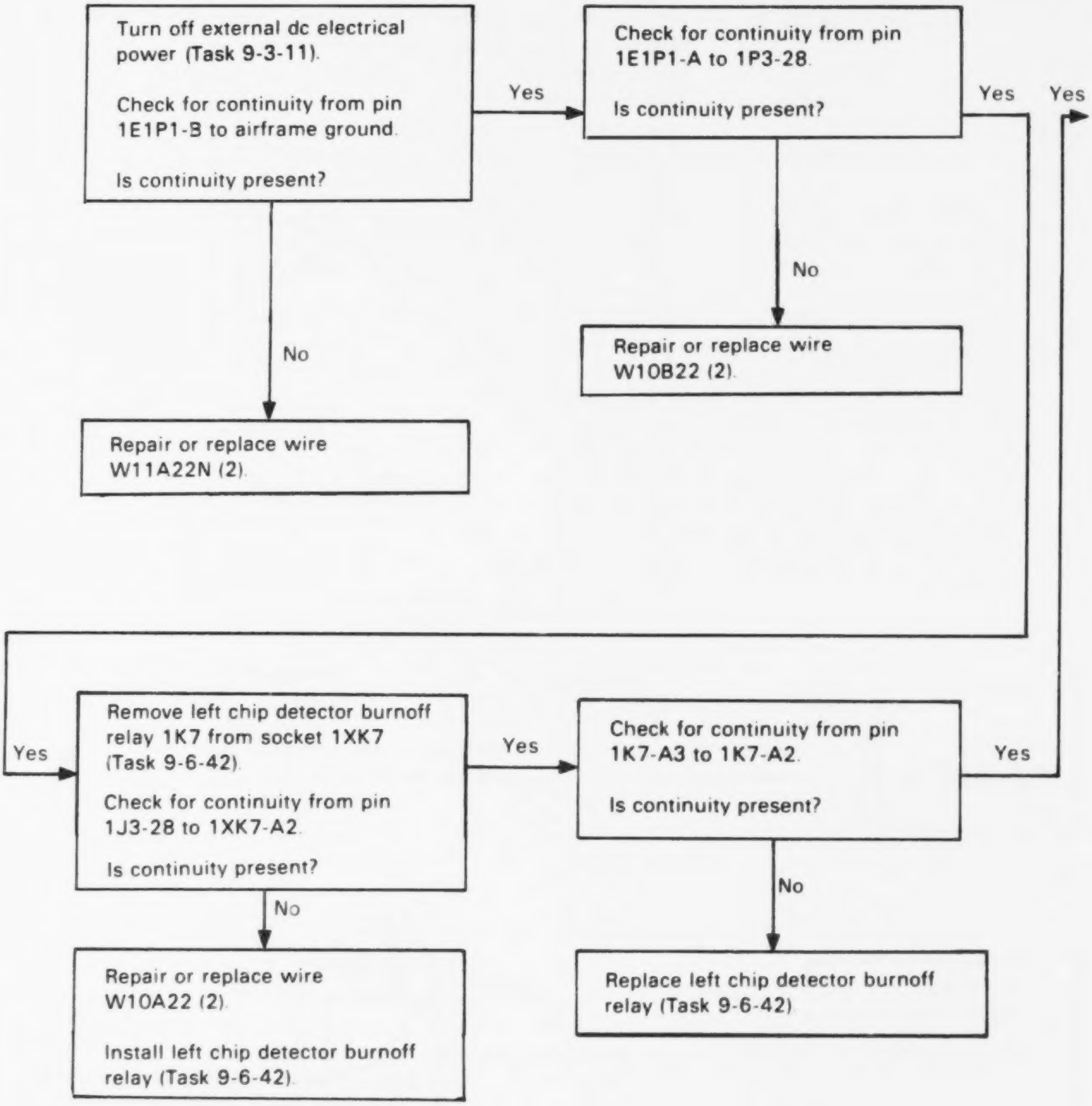
Install right chip detector burnoff relay (Task 9-6-42).

93. MAST BEARING CHIP DETECTOR FUZZ BURNER FAILURE (SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON) (CONT)


1CB16
XMSN FUZZ BNR
5
28 VDC ESSENTIAL BUS
22TB1
W1A22 (2)
W2C22 (2)
W2C22 (2)
W2G22 (2)
W19B22N (2)
W19A22N (2)
W2G22 (2)
W19B22N (2)
MA
MB
ME
MF
MK
MJ
MN
MP
MT
MW
MC
MD
MG
MH
ML
MM
MS
MR
MZ
MY
NA
NE
NJ
NN
NT
NB
NF
NK
NP
NW
NC
NG
NL
NR
NY
ND
NH
NM
NS
NZ
W1B24 (2)
W1D22 (2)
W2D22 (2)
W2F22 (2)
1CR6
1CR7
1R1
W1D22 (2)
1C2
1C4
1C3
1C1
1E2
MAST BEARING CHIP DETECTOR
J1
1E2P1
A
B
C
W3C22 (2)
W4A22 (2)
XMSN DISC
1P7
1J7
10
9
W3B22 (2)
W4B22N (2)
XMSN/ROOF DISC
1P3
1J3
27
W3A22 (2)
3431A2
MCPU, RIGHT
J4
3431A2P4
UPPER XMSN CHIP DET
2
CHIP DET BURNOFF RIGHT
83
W5A22 (2)
W9A24 (2)
1K6
RIGHT CHIP DETECTOR BURNOFF RELAY
1XK6
1XK6
A3
X2
A2
A1
X1
W3A22 (2)
W2D22 (2)
W1B24 (2)

406475-90B

94. CAUTION MESSAGE CHIP XMSN SUMP DOES NOT COME ON (CONNECTOR 1E1P1 CONNECTED TO SPECIAL TOOL AND SWITCH SET TO ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1E1P1-B to airframe ground.

Is continuity present?

Check for continuity from pin 1E1P1-A to 1P3-28.

Is continuity present?

Repair or replace wire W10B22 (2).

Repair or replace wire W11A22N (2).

Remove left chip detector burnoff relay 1K7 from socket 1XK7 (Task 9-6-42).

Check for continuity from pin 1J3-28 to 1XK7-A2.

Is continuity present?

Check for continuity from pin 1K7-A3 to 1K7-A2.

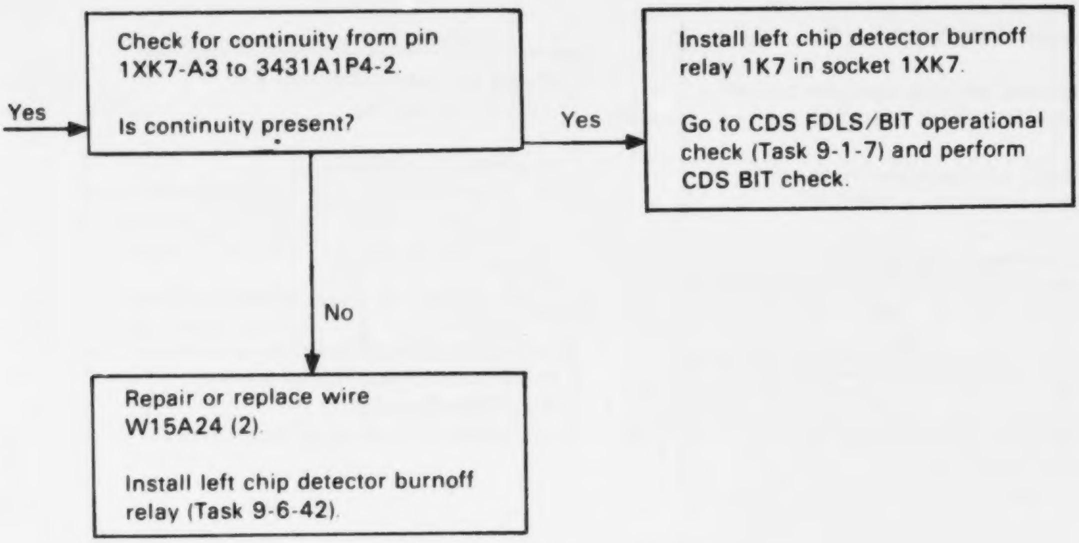
Is continuity present?

Repair or replace wire W10A22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Replace left chip detector burnoff relay (Task 9-6-42).

94. CAUTION MESSAGE CHIP XMSN SUMP DOES NOT COME ON (CONNECTOR 1E1P1 CONNECTED TO SPECIAL TOOL AND SWITCH SET TO ON) (CONT)



Yes

Check for continuity from pin 1XK7-A3 to 3431A1P4-2.

Is continuity present?

Yes

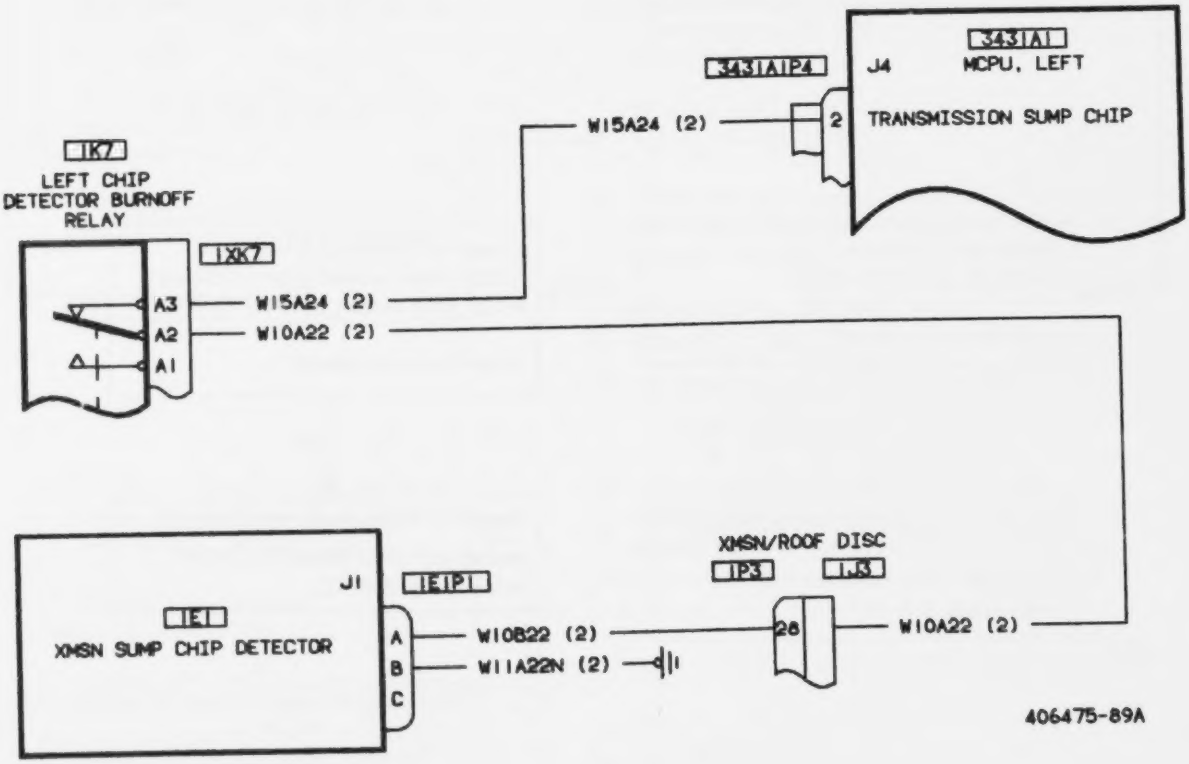
Install left chip detector burnoff relay 1K7 in socket 1XK7.

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

No

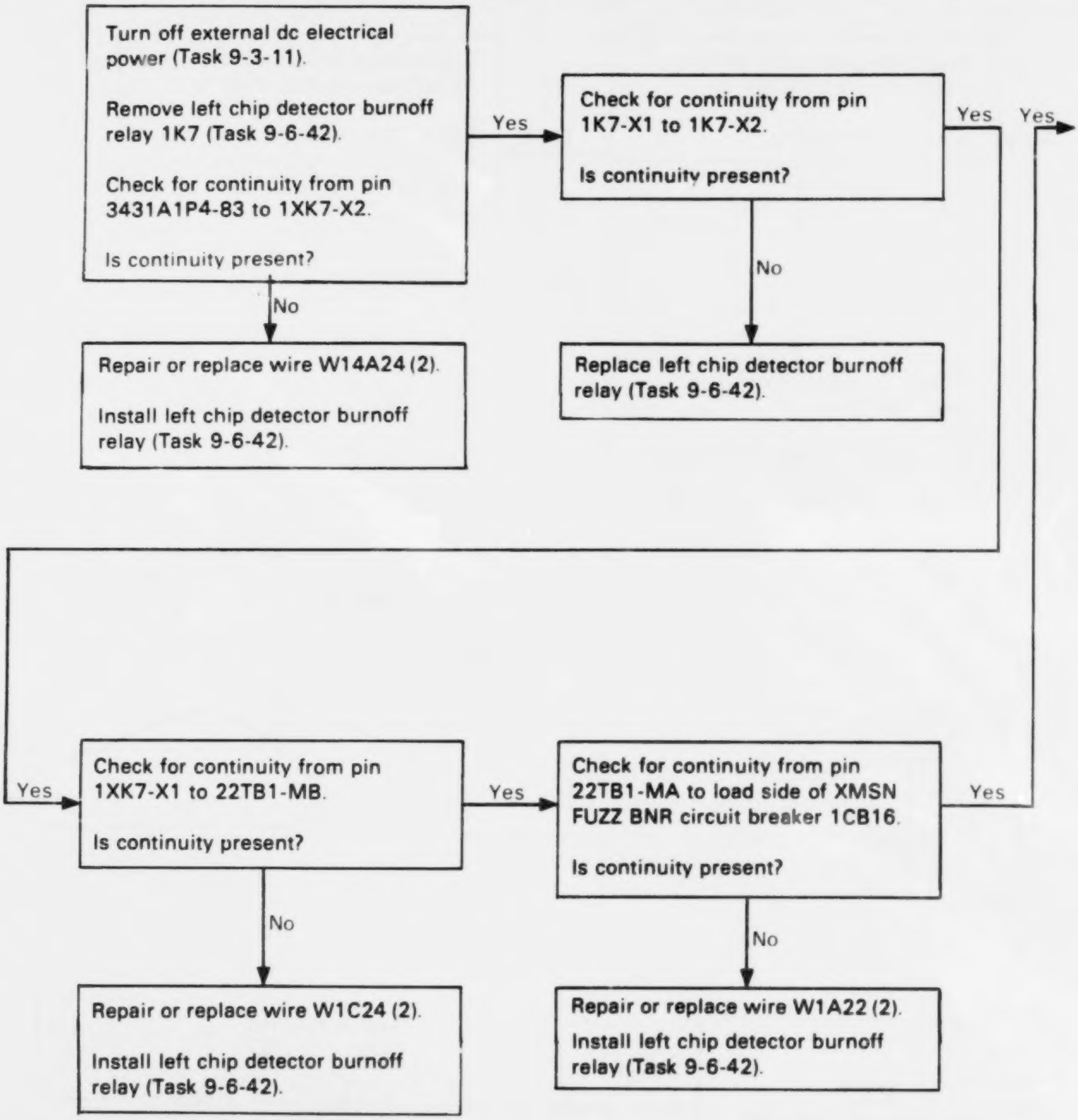
Repair or replace wire W15A24 (2).

Install left chip detector burnoff relay (Task 9-6-42).


3431A1
3431A1P4
J4
MCPU, LEFT
W15A24 (2)
2
TRANSMISSION SUMP CHIP
1K7
LEFT CHIP DETECTOR BURNOFF RELAY
1XK7
A3
A2
A1
W15A24 (2)
W10A22 (2)
XMSN/ROOF DISC
1P3
1J3
J1
1E1P1
1E1
XMSN SUMP CHIP DETECTOR
A
B
C
W10B22 (2)
W11A22N (2)
28
W10A22 (2)

406475-89A

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON



Turn off external dc electrical power (Task 9-3-11).

Remove left chip detector burnoff relay 1K7 (Task 9-6-42).

Check for continuity from pin 3431A1P4-83 to 1XK7-X2.

Is continuity present?

Repair or replace wire W14A24 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1K7-X1 to 1K7-X2.

Is continuity present?

Replace left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK7-X1 to 22TB1-MB.

Is continuity present?

Repair or replace wire W1C24 (2).

Install left chip detector burnoff relay (Task 9-6-42).

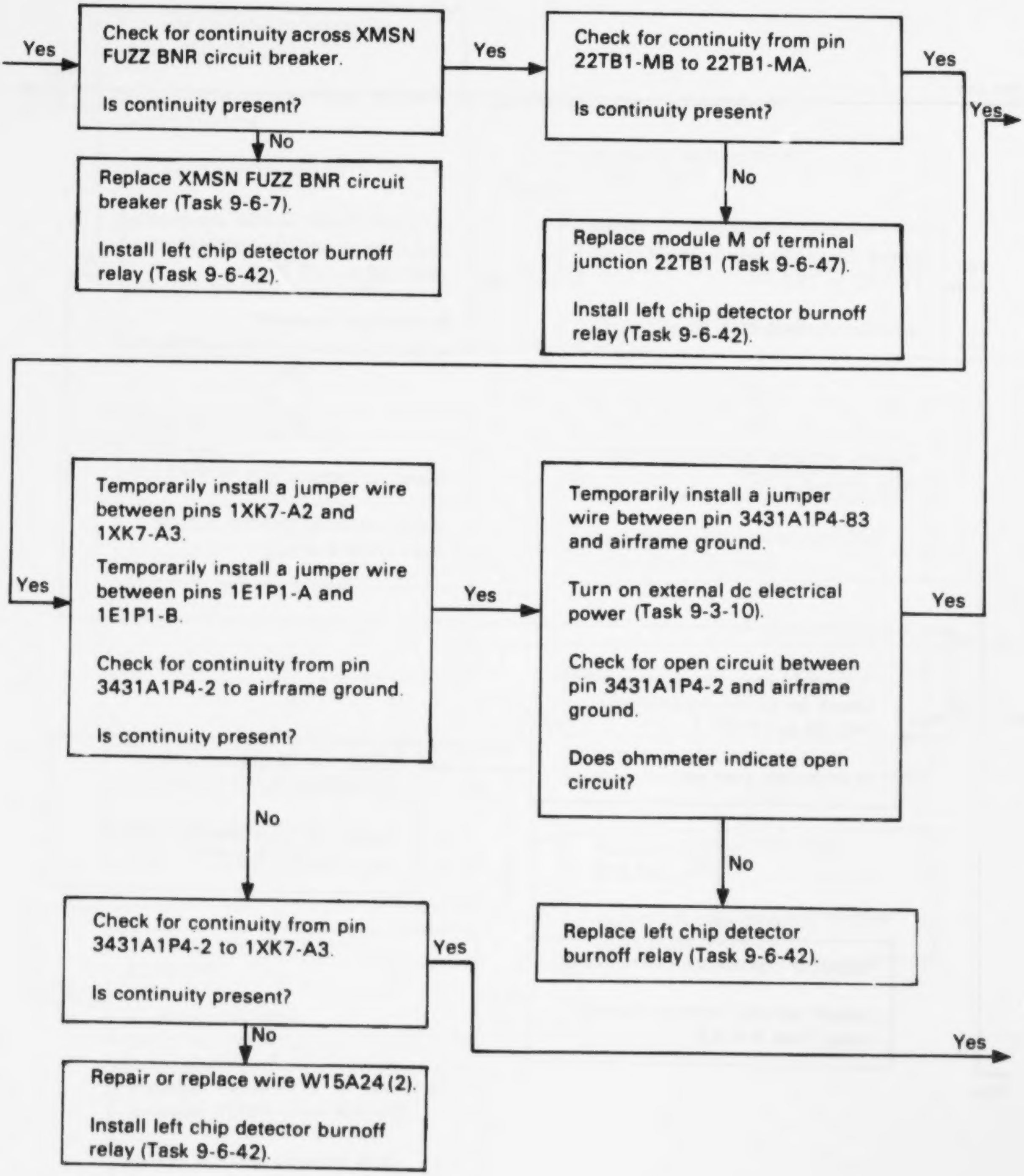
Check for continuity from pin 22TB1-MA to load side of XMSN FUZZ BNR circuit breaker 1CB16.

Is continuity present?

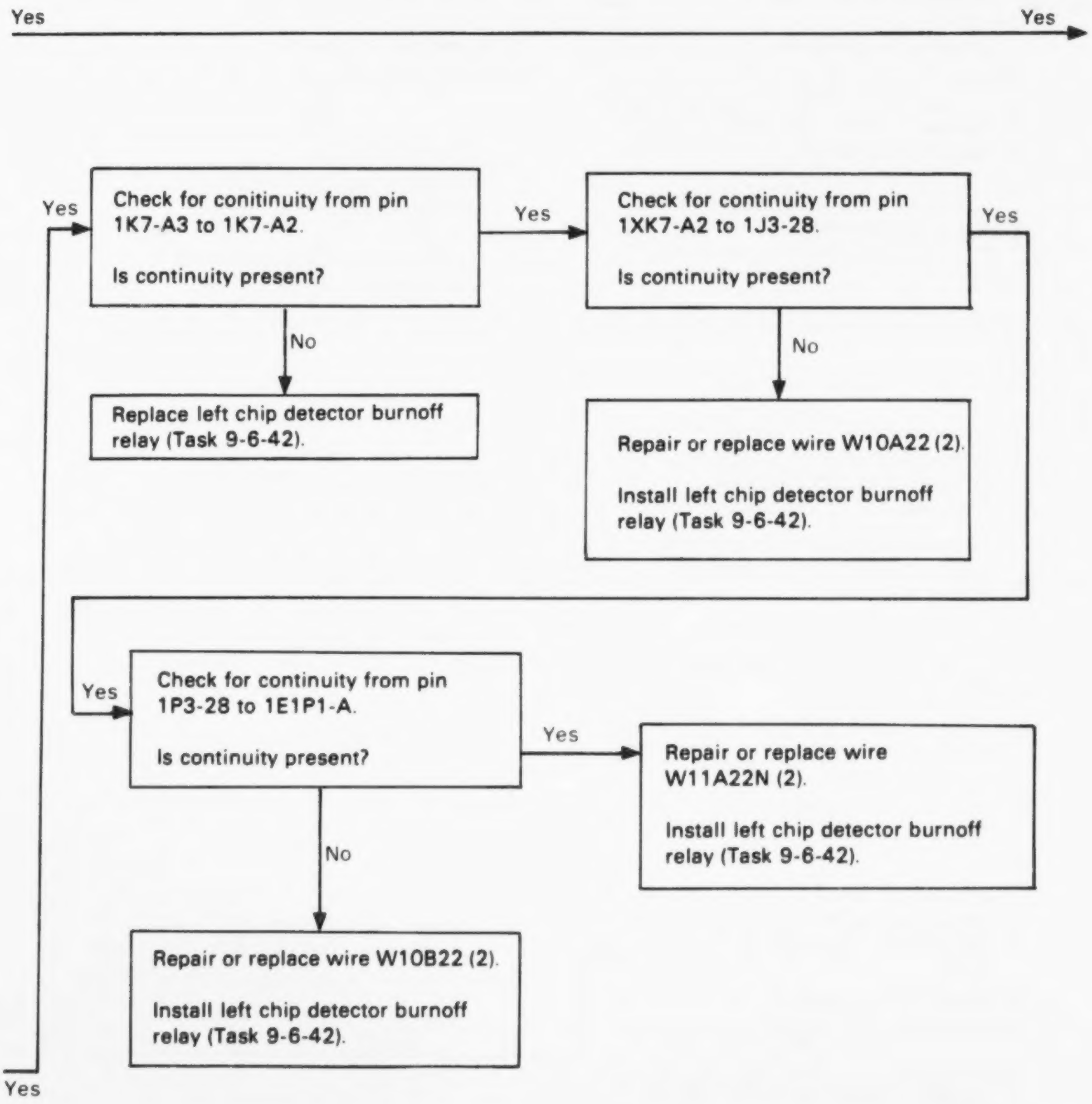
Repair or replace wire W1A22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Check for continuity across XMSN FUZZ BNR circuit breaker. Is continuity present?
Yes
Check for continuity from pin 22TB1-MB to 22TB1-MA. Is continuity present?
Yes
Yes
No
Replace XMSN FUZZ BNR circuit breaker (Task 9-6-7). Install left chip detector burnoff relay (Task 9-6-42).
No
Replace module M of terminal junction 22TB1 (Task 9-6-47). Install left chip detector burnoff relay (Task 9-6-42).
Yes
Temporarily install a jumper wire between pins 1XK7-A2 and 1XK7-A3. Temporarily install a jumper wire between pins 1E1P1-A and 1E1P1-B. Check for continuity from pin 3431A1P4-2 to airframe ground. Is continuity present?
Yes
Temporarily install a jumper wire between pin 3431A1P4-83 and airframe ground. Turn on external dc electrical power (Task 9-3-10). Check for open circuit between pin 3431A1P4-2 and airframe ground. Does ohmmeter indicate open circuit?
Yes
No
No
Check for continuity from pin 3431A1P4-2 to 1XK7-A3. Is continuity present?
Yes
Replace left chip detector burnoff relay (Task 9-6-42).
No
Repair or replace wire W15A24 (2). Install left chip detector burnoff relay (Task 9-6-42).
Yes

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for conitinuity from pin 1K7-A3 to 1K7-A2.

Is continuity present?

Replace left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK7-A2 to 1J3-28.

Is continuity present?

Repair or replace wire W10A22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1P3-28 to 1E1P1-A.

Is continuity present?

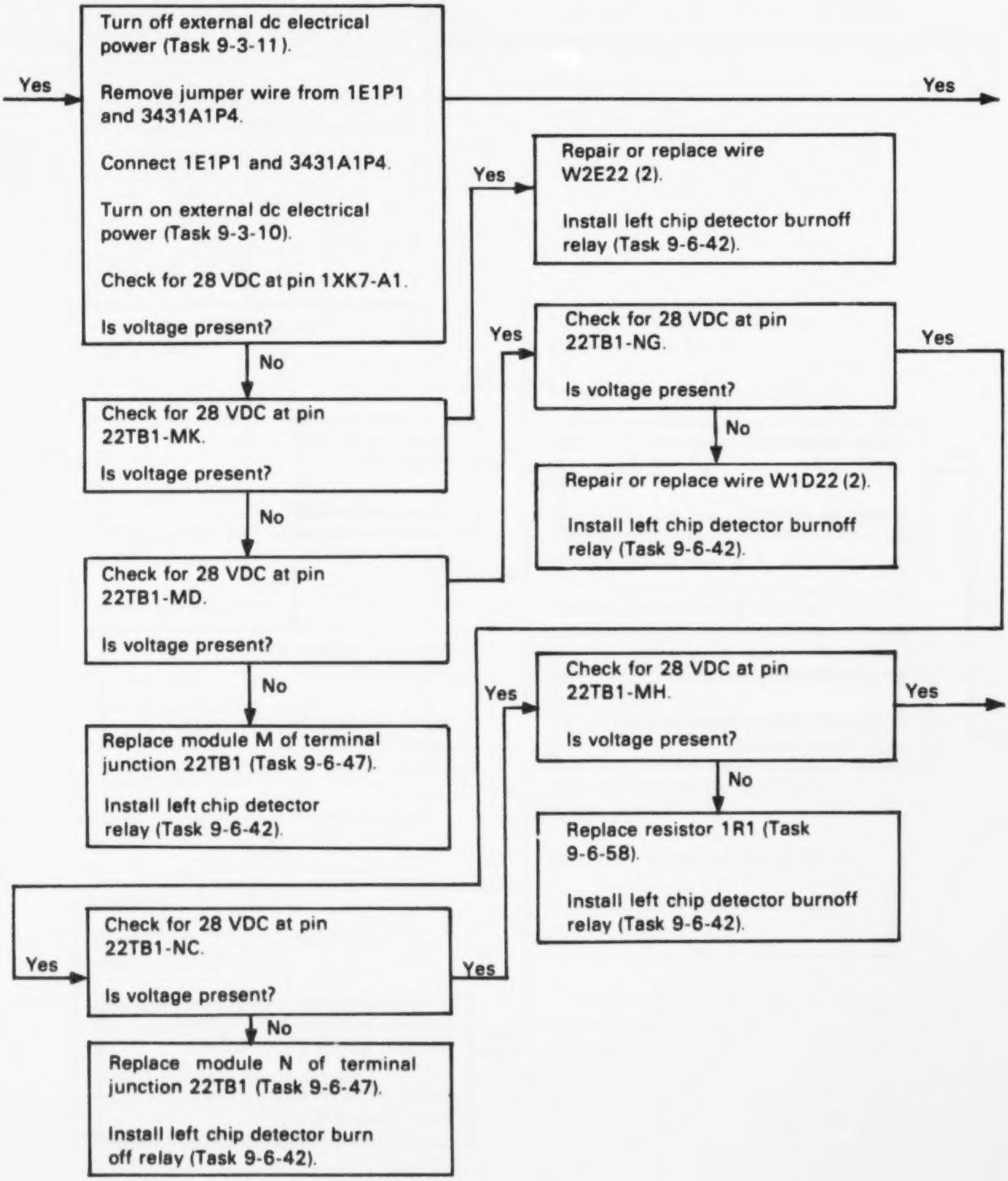
Repair or replace wire W11A22N (2).

Install left chip detector burnoff relay (Task 9-6-42).

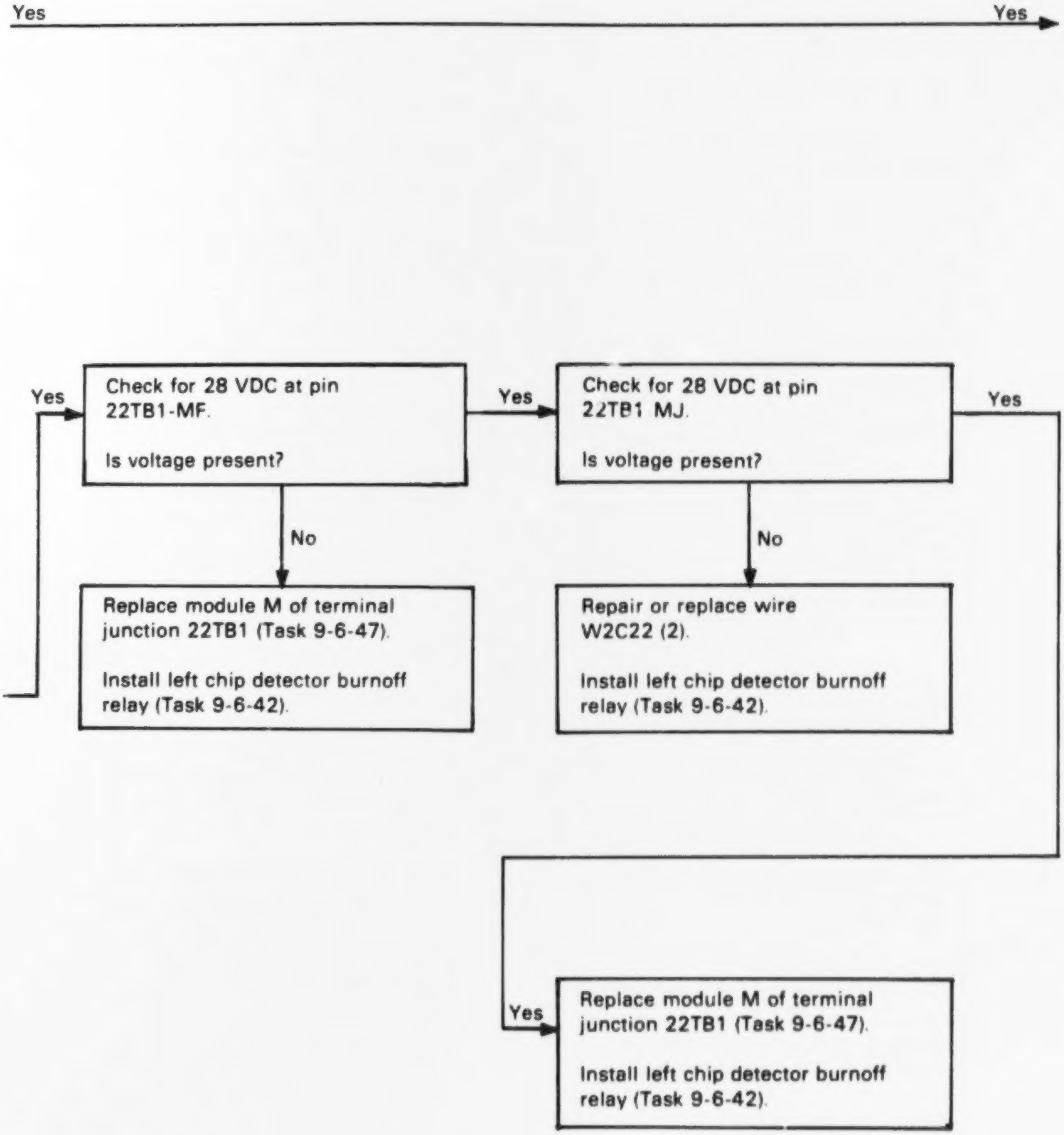
Repair or replace wire W10B22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Turn off external dc electrical power (Task 9-3-11).
Remove jumper wire from 1E1P1 and 3431A1P4.
Connect 1E1P1 and 3431A1P4.
Turn on external dc electrical power (Task 9-3-10).
Check for 28 VDC at pin 1XK7-A1.
Is voltage present?
Yes
No
Check for 28 VDC at pin 22TB1-MK.
Is voltage present?
Yes
Repair or replace wire W2E22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
No
Check for 28 VDC at pin 22TB1-MD.
Is voltage present?
Yes
Check for 28 VDC at pin 22TB1-NG.
Is voltage present?
Yes
No
Repair or replace wire W1D22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
No
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector relay (Task 9-6-42).
Yes
Check for 28 VDC at pin 22TB1-MH.
Is voltage present?
Yes
No
Replace resistor 1R1 (Task 9-6-58).
Install left chip detector burnoff relay (Task 9-6-42).
Yes
Check for 28 VDC at pin 22TB1-NC.
Is voltage present?
Yes
No
Replace module N of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burn off relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for 28 VDC at pin 22TB1-MF.

Is voltage present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1 MJ.

Is voltage present?

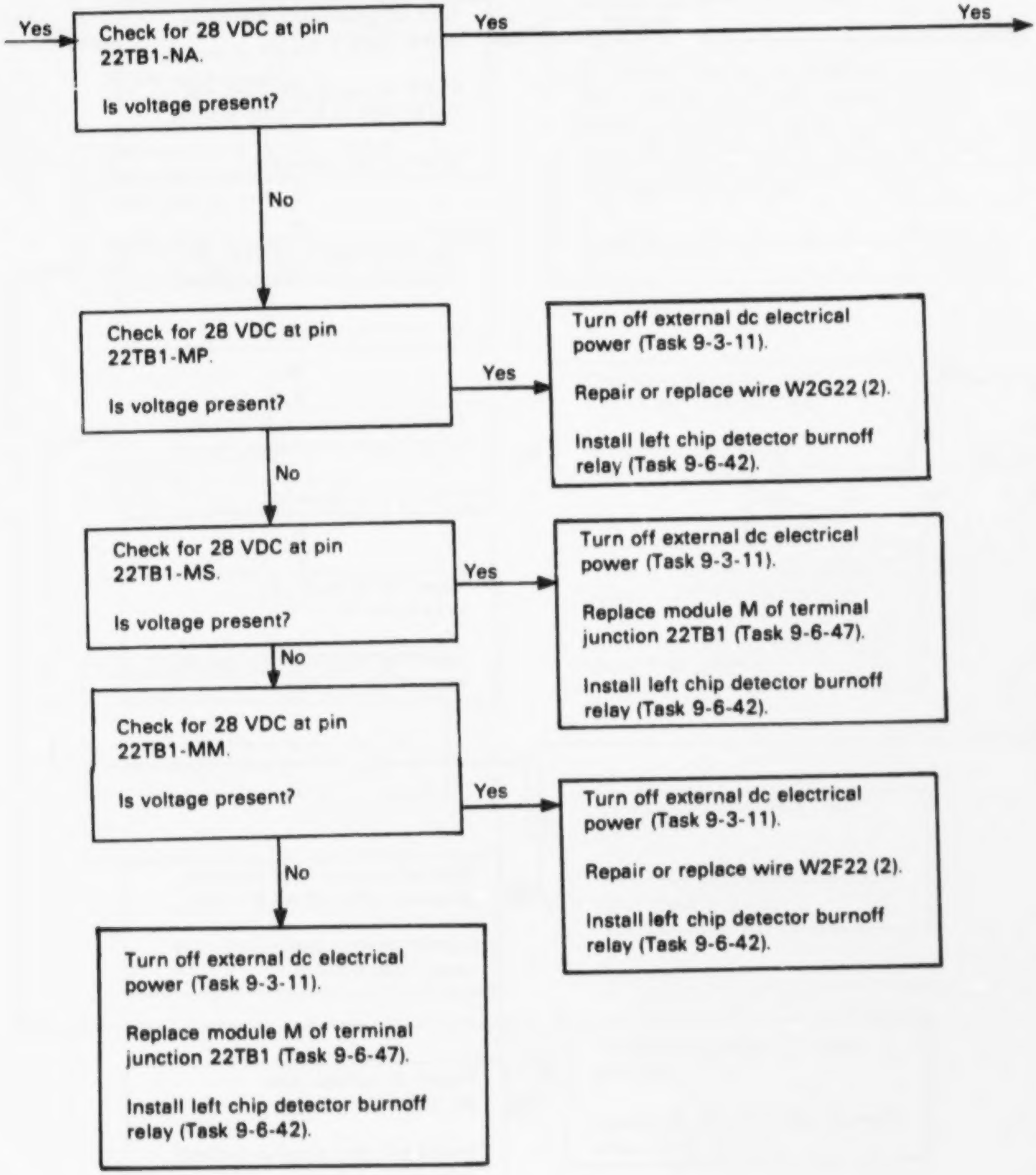
Repair or replace wire W2C22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

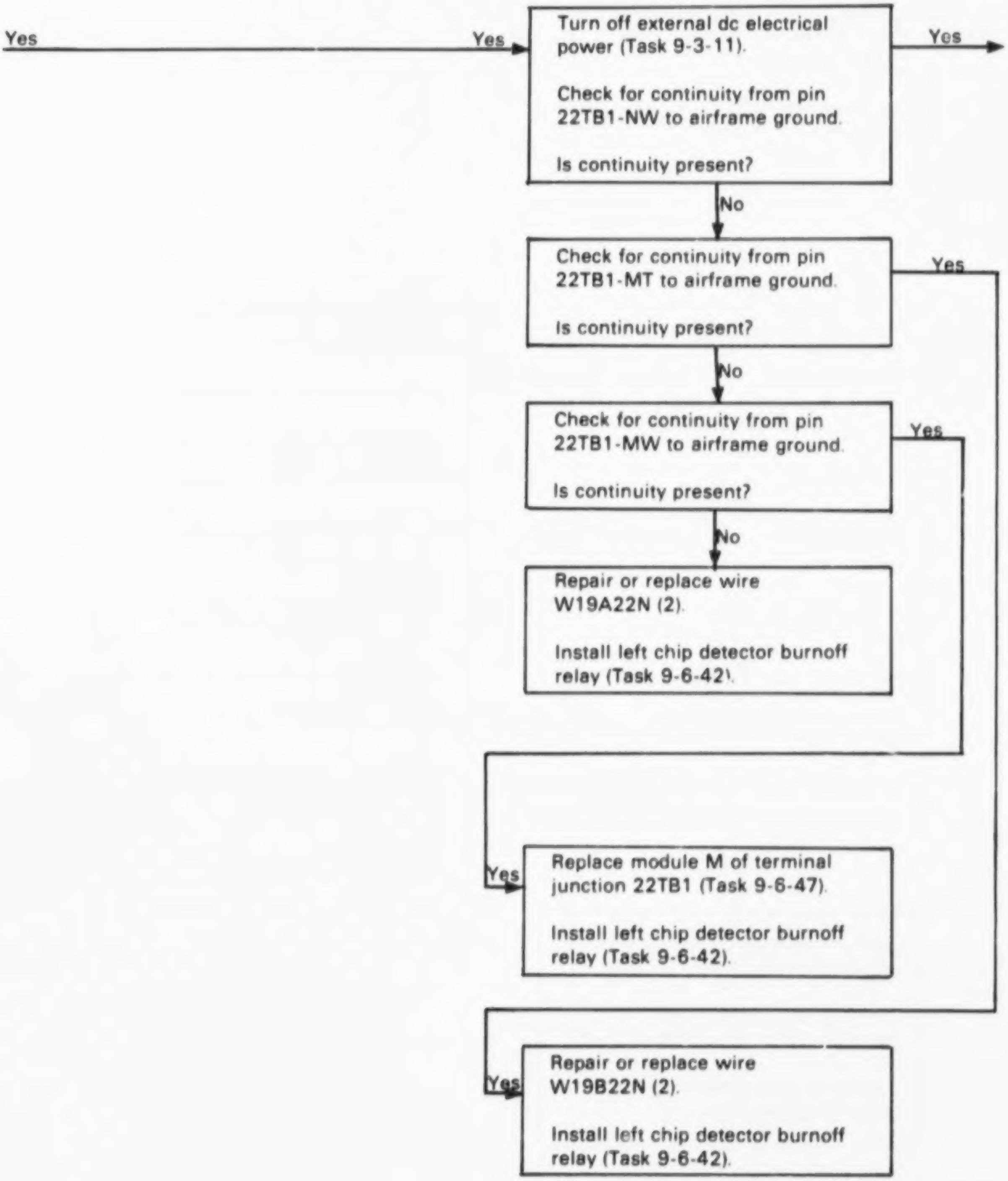
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Check for 28 VDC at pin 22TB1-NA.
Is voltage present?
Yes
Yes
No
Check for 28 VDC at pin 22TB1-MP.
Is voltage present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Repair or replace wire W2G22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
No
Check for 28 VDC at pin 22TB1-MS.
Is voltage present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burnoff relay (Task 9-6-42).
No
Check for 28 VDC at pin 22TB1-MM.
Is voltage present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Repair or replace wire W2F22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
No
Turn off external dc electrical power (Task 9-3-11).
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 22TB1-NW to airframe ground.

Is continuity present?

Check for continuity from pin 22TB1-MT to airframe ground.

Is continuity present?

Check for continuity from pin 22TB1-MW to airframe ground.

Is continuity present?

Repair or replace wire W19A22N (2).

Install left chip detector burnoff relay (Task 9-6-42).

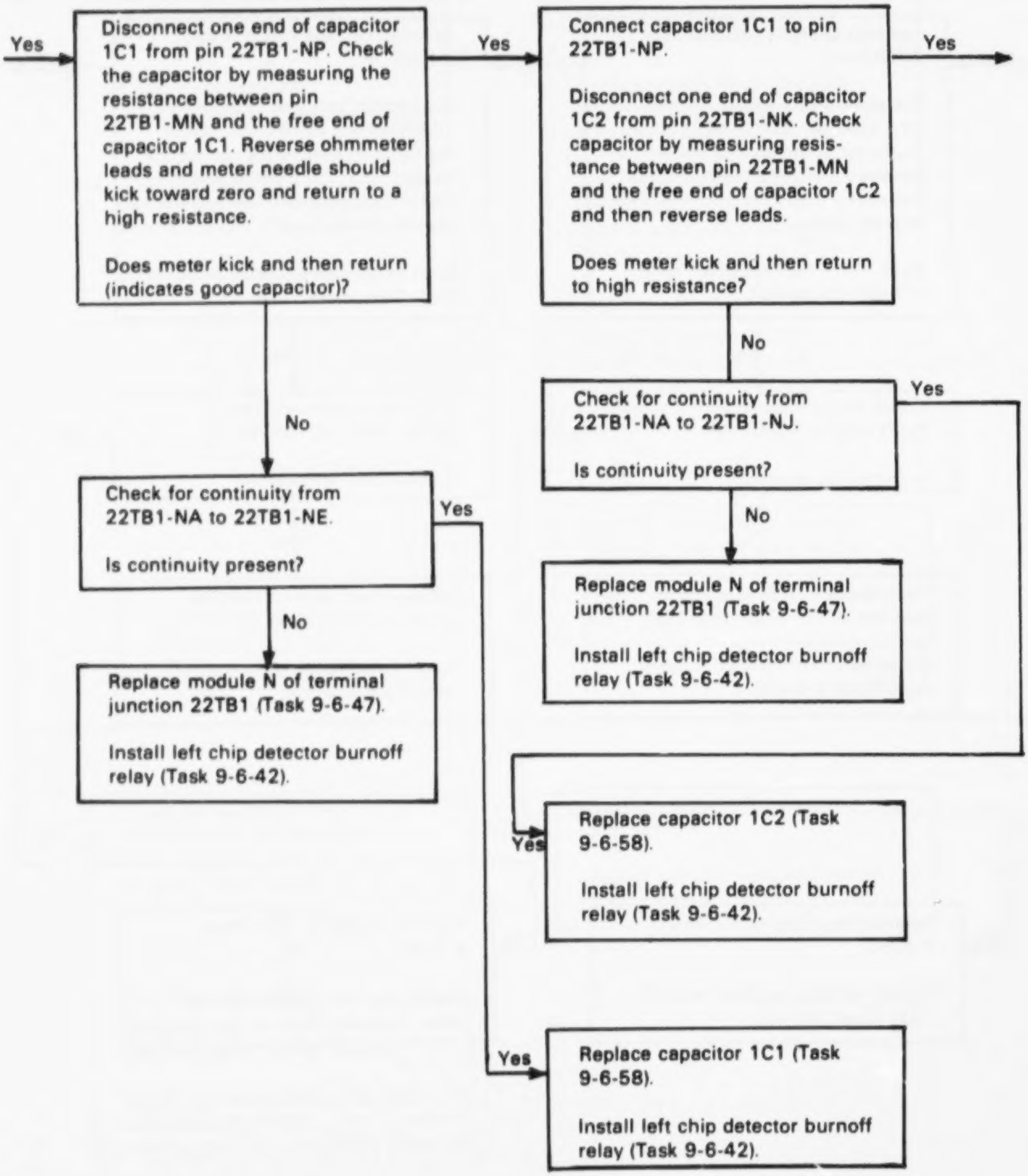
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W19B22N (2).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Disconnect one end of capacitor 1C1 from pin 22TB1-NP. Check the capacitor by measuring the resistance between pin 22TB1-MN and the free end of capacitor 1C1. Reverse ohmmeter leads and meter needle should kick toward zero and return to a high resistance.

Does meter kick and then return (indicates good capacitor)?

Connect capacitor 1C1 to pin 22TB1-NP.

Disconnect one end of capacitor 1C2 from pin 22TB1-NK. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C2 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NJ.

Is continuity present?

Check for continuity from 22TB1-NA to 22TB1-NE.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

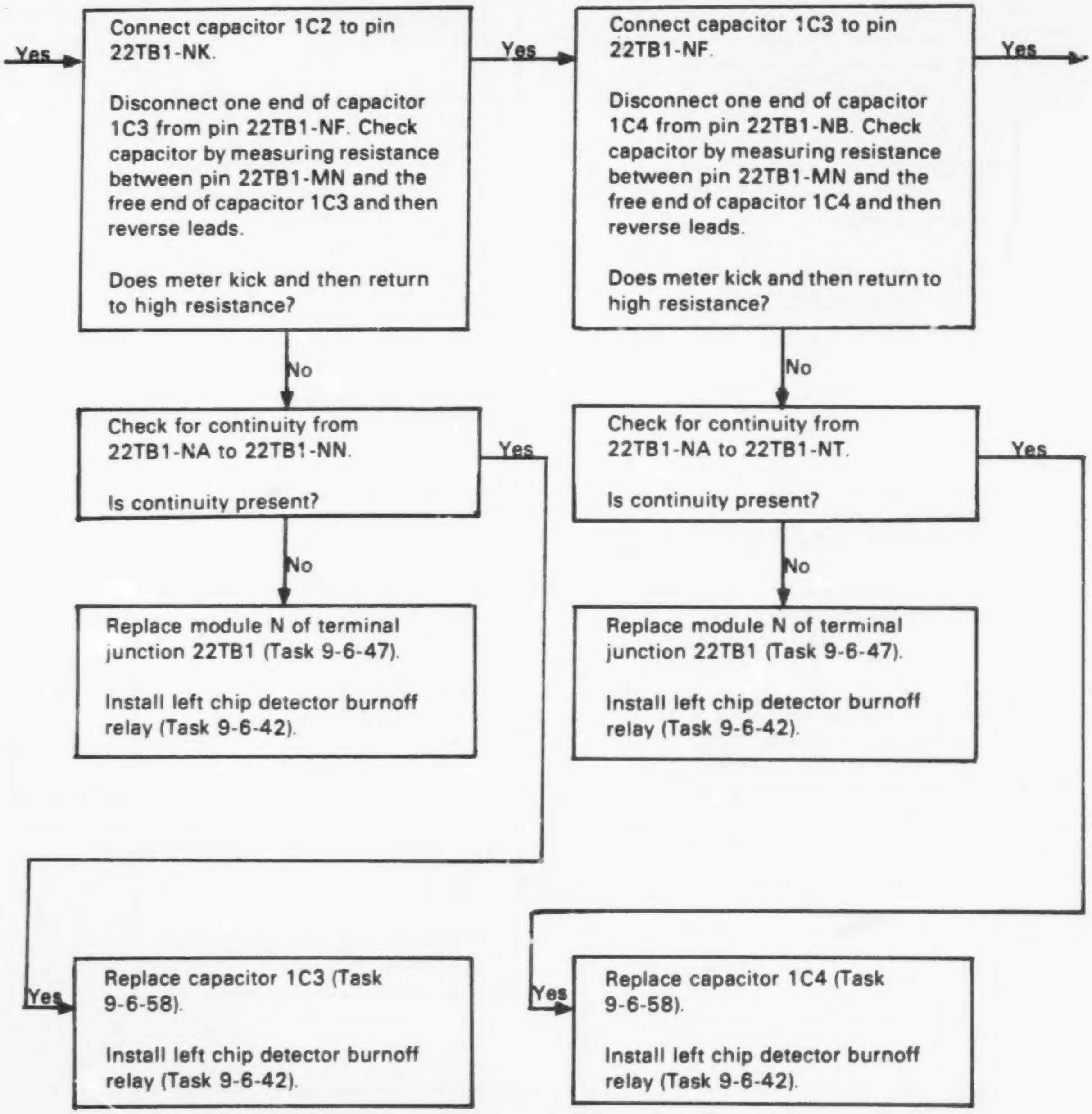
Replace capacitor 1C2 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C1 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Connect capacitor 1C2 to pin 22TB1-NK.

Disconnect one end of capacitor 1C3 from pin 22TB1-NF. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C3 and then reverse leads.

Does meter kick and then return to high resistance?

Connect capacitor 1C3 to pin 22TB1-NF.

Disconnect one end of capacitor 1C4 from pin 22TB1-NB. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C4 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NN.

Is continuity present?

Check for continuity from 22TB1-NA to 22TB1-NT.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

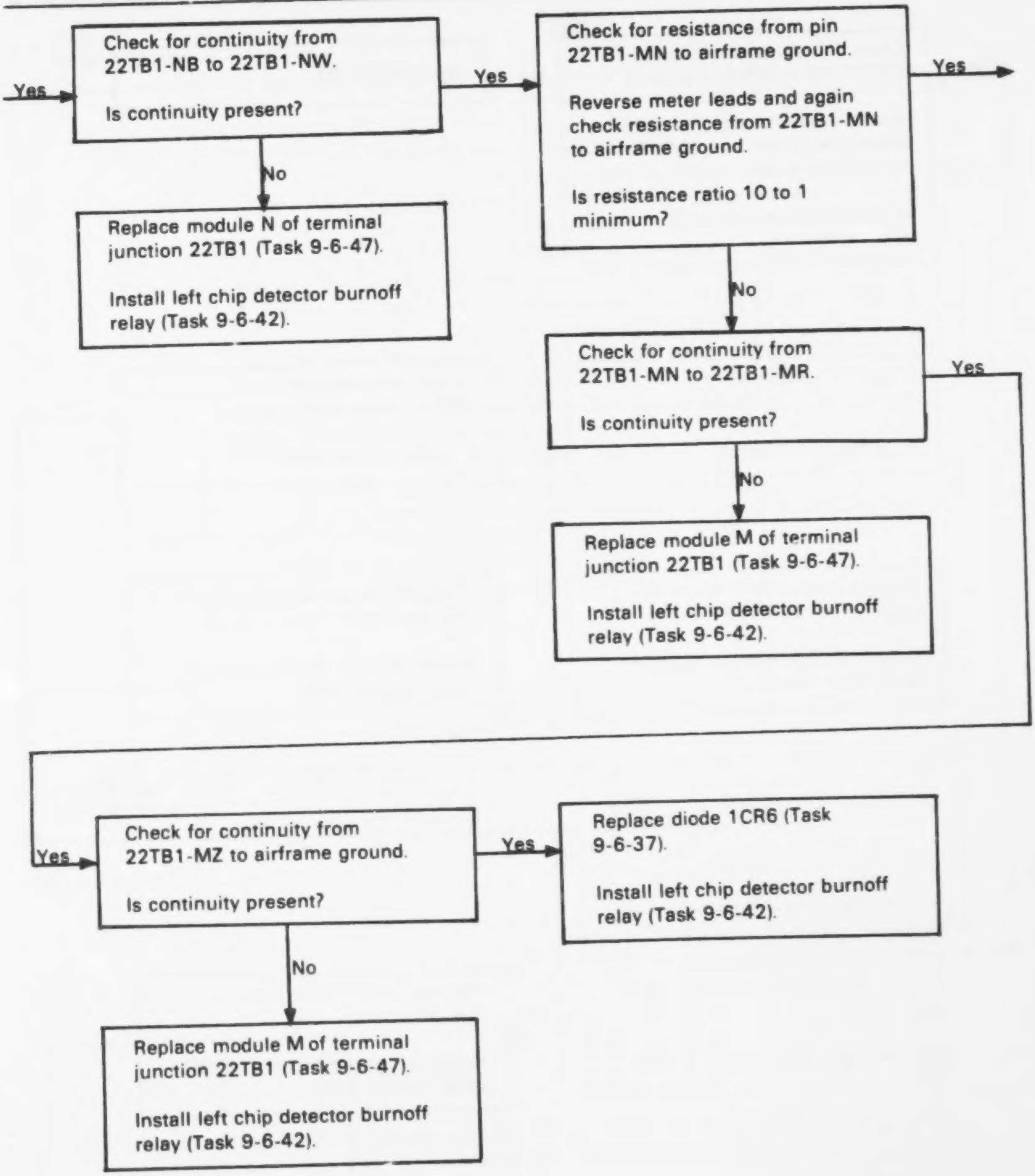
Replace capacitor 1C3 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C4 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from 22TB1-NB to 22TB1-NW.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Check for resistance from pin 22TB1-MN to airframe ground.

Reverse meter leads and again check resistance from 22TB1-MN to airframe ground.

Is resistance ratio 10 to 1 minimum?

Check for continuity from 22TB1-MN to 22TB1-MR.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from 22TB1-MZ to airframe ground.

Is continuity present?

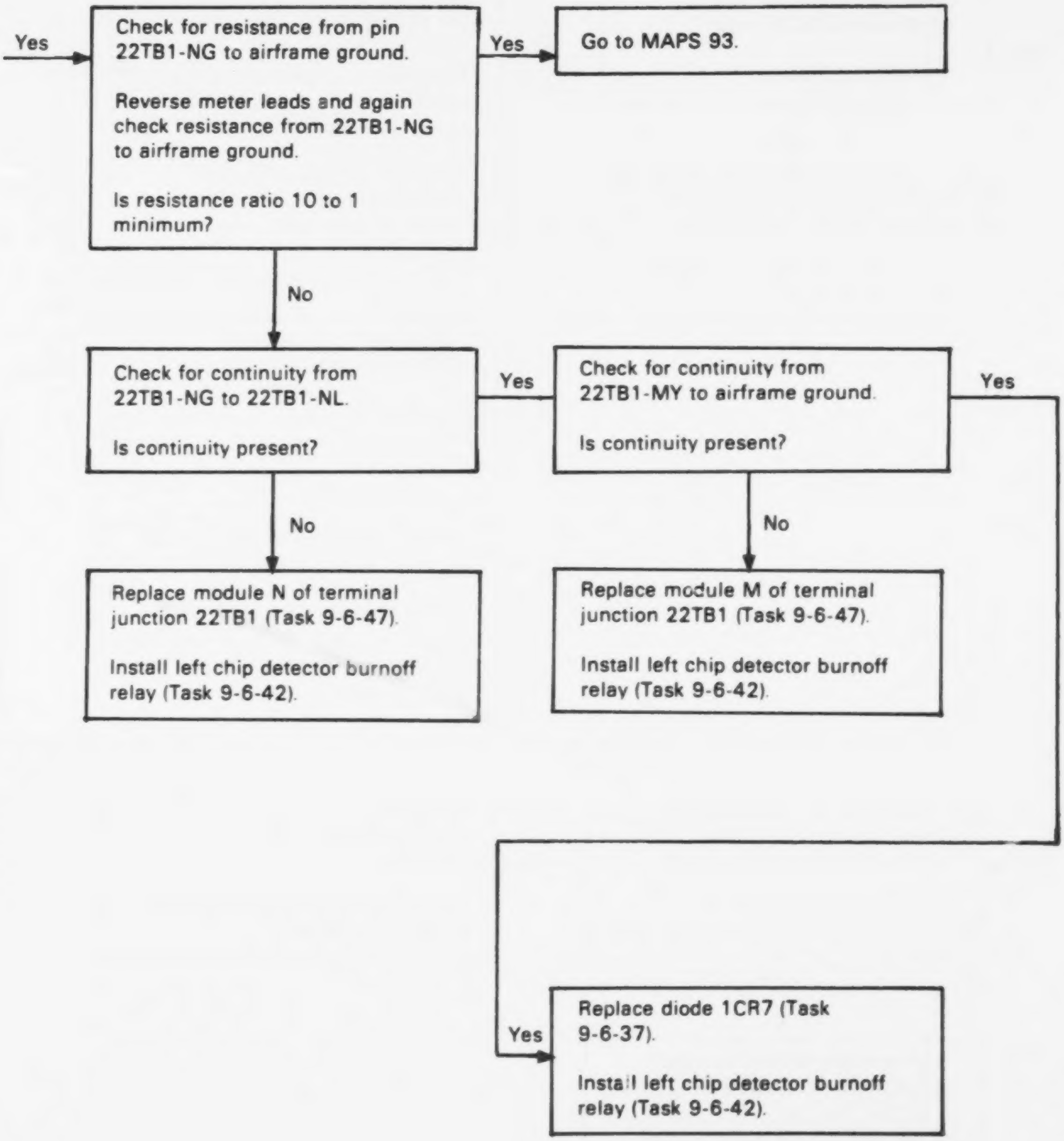
Replace diode 1CR6 (Task 9-6-37).

Install left chip detector burnoff relay (Task 9-6-42).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for resistance from pin 22TB1-NG to airframe ground.

Reverse meter leads and again check resistance from 22TB1-NG to airframe ground.

Is resistance ratio 10 to 1 minimum?

Go to MAPS 93.

Check for continuity from 22TB1-NG to 22TB1-NL.

Is continuity present?

Check for continuity from 22TB1-MY to airframe ground.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

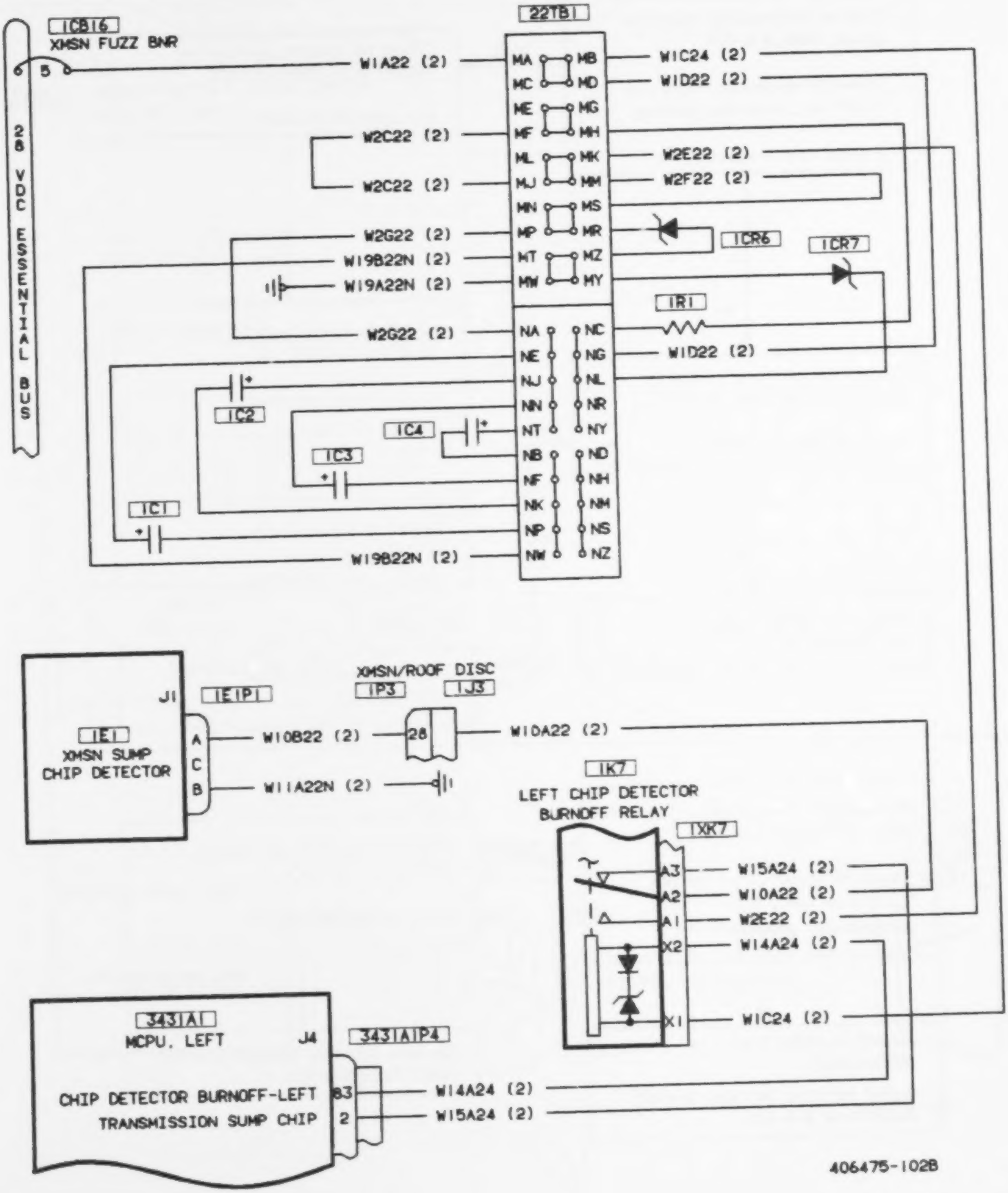
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace diode 1CR7 (Task 9-6-37).

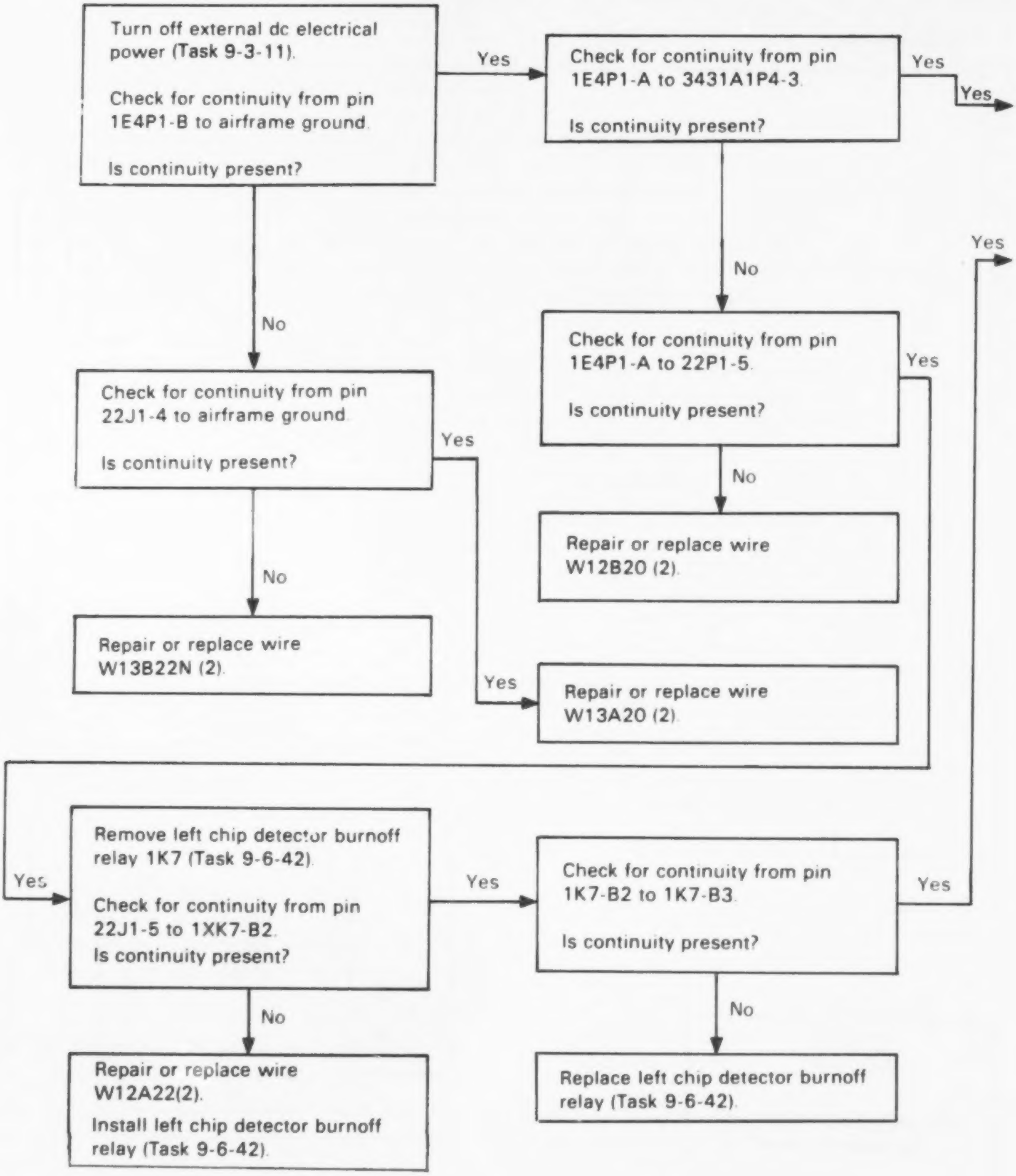
Install left chip detector burnoff relay (Task 9-6-42).

95. TRANSMISSION SUMP CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


1CB16
XMSN FUZZ BNR
5
28 VDC ESSENTIAL BUS
22TB1
W1A22 (2)
W2C22 (2)
W2C22 (2)
W2G22 (2)
W19B22N (2)
W19A22N (2)
W2G22 (2)
W19B22N (2)
MA MB MC MD ME MG MF MH ML MK MJ MM MN MS MP MR MT MZ MW MY
NA NC NE NG NJ NL NN NR NT NY NB ND NF NH NK NM NP NS NW NZ
W1C24 (2)
W1D22 (2)
W2E22 (2)
W2F22 (2)
1CR6
1CR7
1R1
W1D22 (2)
1C2
1C4
1C3
1C1
1E1P1
J1
1E1
XMSN SUMP CHIP DETECTOR
A
C
B
W10B22 (2)
W11A22N (2)
XMSN/ROOF DISC
1P3
1J3
28
W10A22 (2)
1K7
LEFT CHIP DETECTOR BURNOFF RELAY
1XK7
A3
A2
A1
X2
X1
W15A24 (2)
W10A22 (2)
W2E22 (2)
W14A24 (2)
W1C24 (2)
343A1
MCPU, LEFT
J4
343A1P4
CHIP DETECTOR BURNOFF-LEFT
TRANSMISSION SUMP CHIP
83
2
W14A24 (2)
W15A24 (2)

406475-102B

96. CAUTION MESSAGE CHIP ENG FREEWHEEL DOES NOT COME ON (CONNECTOR 1E4P1 CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1E4P1-B to airframe ground.

Is continuity present?

Check for continuity from pin 1E4P1-A to 3431A1P4-3.

Is continuity present?

Check for continuity from pin 1E4P1-A to 22P1-5.

Is continuity present?

Check for continuity from pin 22J1-4 to airframe ground.

Is continuity present?

Repair or replace wire W12B20 (2).

Repair or replace wire W13B22N (2).

Repair or replace wire W13A20 (2).

Remove left chip detector burnoff relay 1K7 (Task 9-6-42).

Check for continuity from pin 22J1-5 to 1XK7-B2.

Is continuity present?

Check for continuity from pin 1K7-B2 to 1K7-B3.

Is continuity present?

Repair or replace wire W12A22(2).

Install left chip detector burnoff relay (Task 9-6-42).

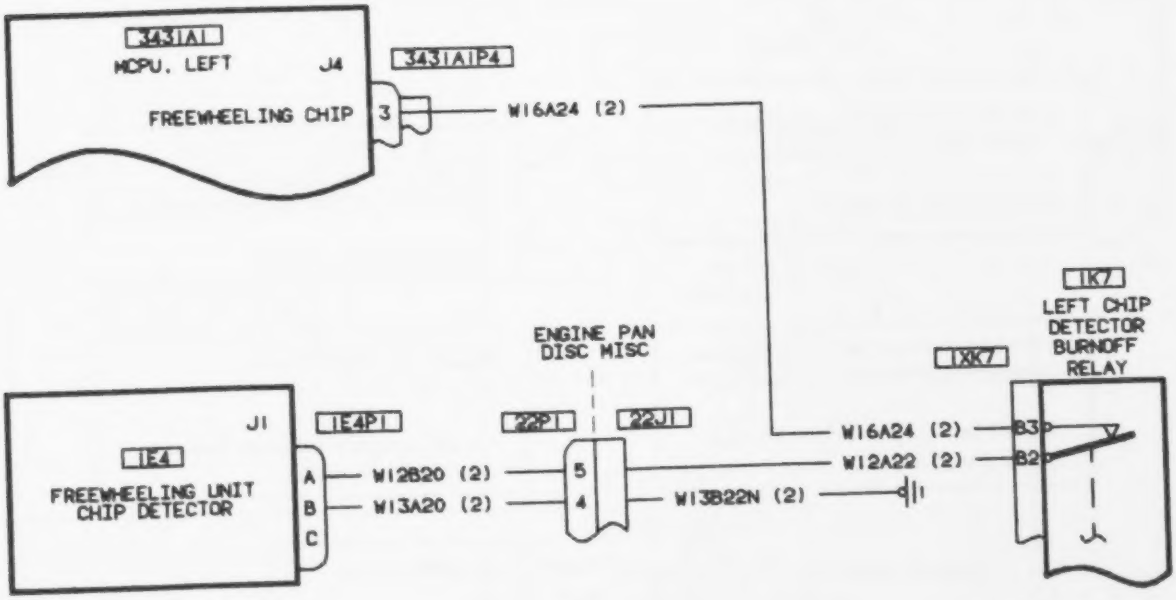
Replace left chip detector burnoff relay (Task 9-6-42).

96. CAUTION MESSAGE CHIP ENG FREEWHEEL DOES NOT COME ON (CONNECTOR 1E4P1 CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON) (CONT)

Yes → Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

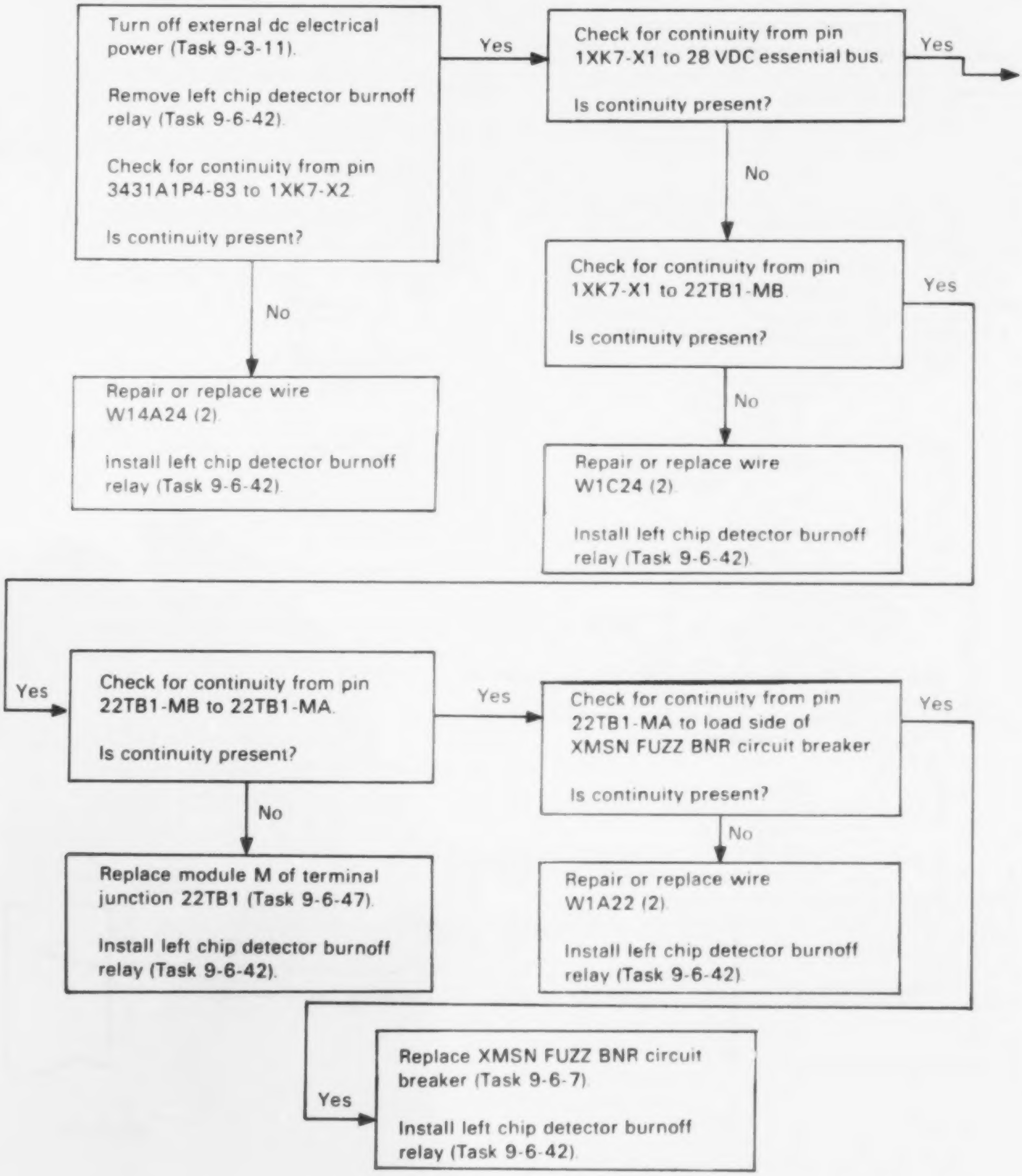
Yes → Repair or replace wire W16A24 (2).

Install left chip detector burnoff relay (Task 9-6-42).


3431A1
MCPU, LEFT
J4
FREEWHEELING CHIP
3
3431A1P4
W16A24 (2)
1K7
LEFT CHIP DETECTOR BURNOFF RELAY
1XK7
ENGINE PAN DISC MISC
J1
1E4
FREEWHEELING UNIT CHIP DETECTOR
1E4P1
A
B
C
W12B20 (2)
W13A20 (2)
22P1
22J1
5
4
W13B22N (2)
W16A24 (2)
W12A22 (2)
B3
B2

406475-98A

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON



Turn off external dc electrical power (Task 9-3-11).

Remove left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 3431A1P4-83 to 1XK7-X2.

Is continuity present?

Check for continuity from pin 1XK7-X1 to 28 VDC essential bus.

Is continuity present?

Repair or replace wire W14A24 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1XK7-X1 to 22TB1-MB.

Is continuity present?

Repair or replace wire W1C24 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 22TB1-MB to 22TB1-MA.

Is continuity present?

Check for continuity from pin 22TB1-MA to load side of XMSN FUZZ BNR circuit breaker.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

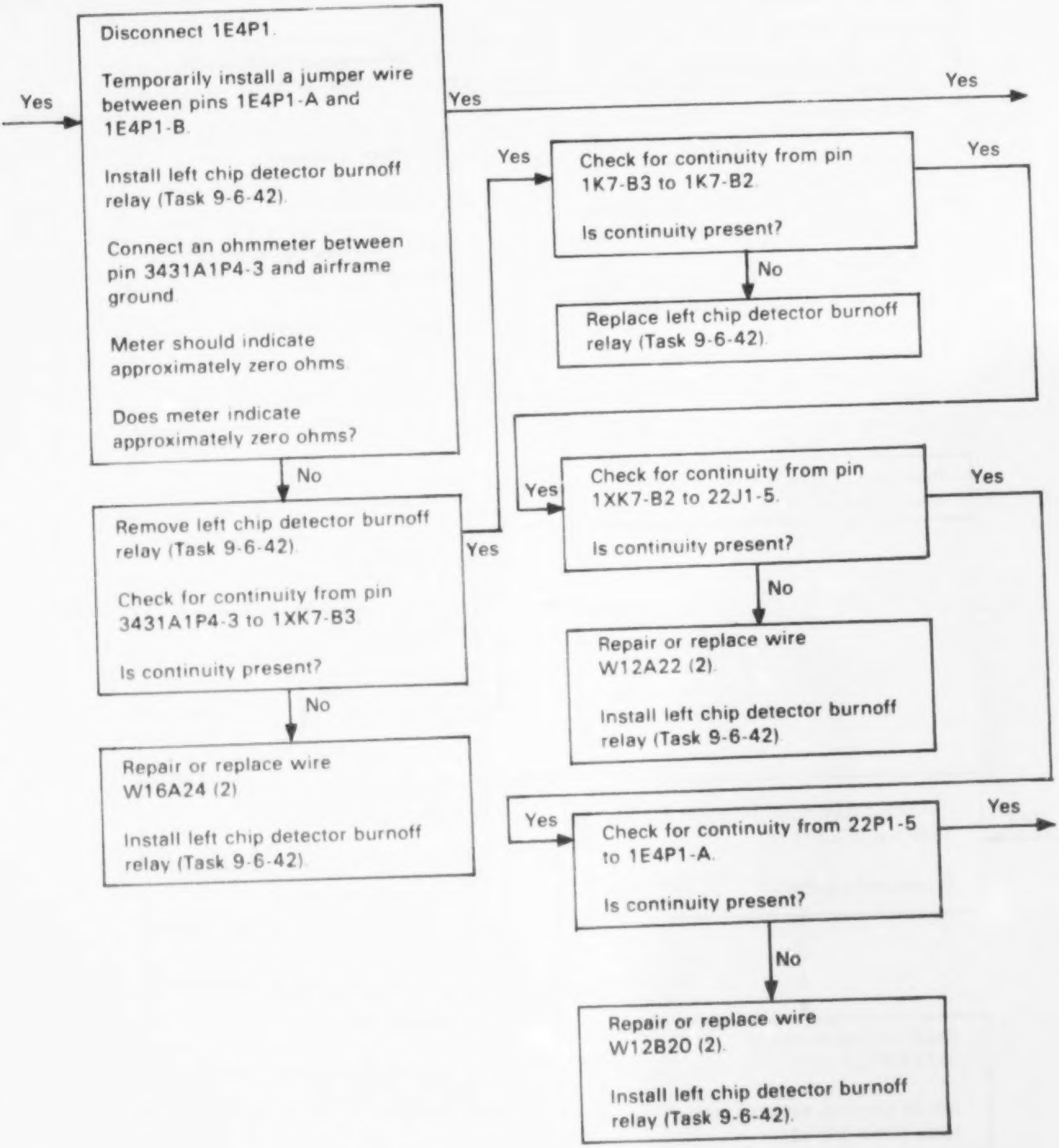
Repair or replace wire W1A22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

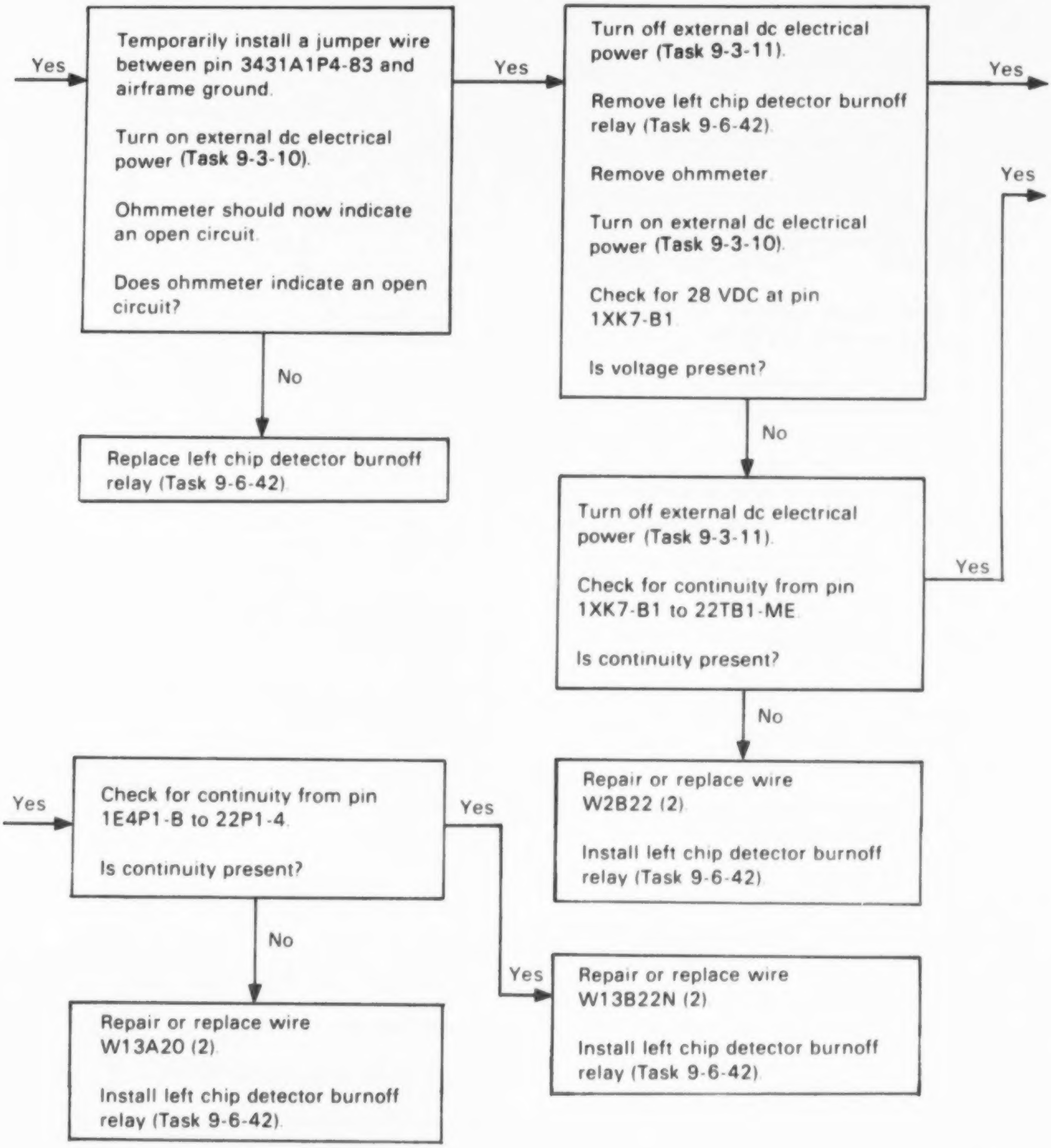
Replace XMSN FUZZ BNR circuit breaker (Task 9-6-7).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Disconnect 1E4P1.
Temporarily install a jumper wire between pins 1E4P1-A and 1E4P1-B.
Install left chip detector burnoff relay (Task 9-6-42).
Connect an ohmmeter between pin 3431A1P4-3 and airframe ground.
Meter should indicate approximately zero ohms.
Does meter indicate approximately zero ohms?
Yes
Yes
No
Remove left chip detector burnoff relay (Task 9-6-42).
Check for continuity from pin 3431A1P4-3 to 1XK7-B3.
Is continuity present?
Yes
No
Repair or replace wire W16A24 (2).
Install left chip detector burnoff relay (Task 9-6-42).
Yes
Check for continuity from pin 1K7-B3 to 1K7-B2.
Is continuity present?
Yes
No
Replace left chip detector burnoff relay (Task 9-6-42).
Yes
Check for continuity from pin 1XK7-B2 to 22J1-5.
Is continuity present?
Yes
No
Repair or replace wire W12A22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
Yes
Check for continuity from 22P1-5 to 1E4P1-A.
Is continuity present?
Yes
No
Repair or replace wire W12B20 (2).
Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Temporarily install a jumper wire between pin 3431A1P4-83 and airframe ground.

Turn on external dc electrical power (Task 9-3-10).

Ohmmeter should now indicate an open circuit.

Does ohmmeter indicate an open circuit?

Replace left chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Remove left chip detector burnoff relay (Task 9-6-42).

Remove ohmmeter.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at pin 1XK7-B1.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1XK7-B1 to 22TB1-ME.

Is continuity present?

Repair or replace wire W2B22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 1E4P1-B to 22P1-4.

Is continuity present?

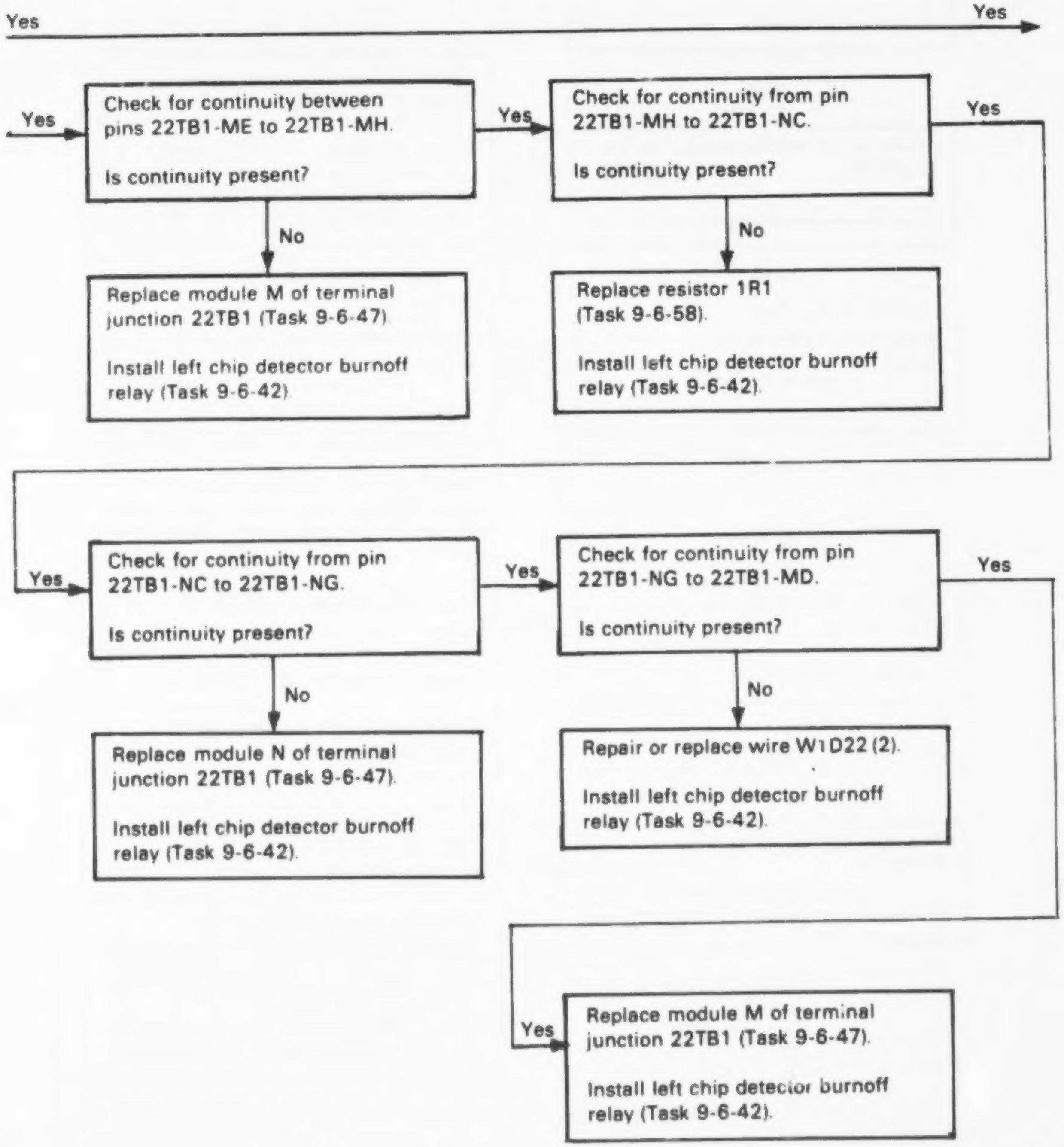
Repair or replace wire W13A20 (2).

Install left chip detector burnoff relay (Task 9-6-42).

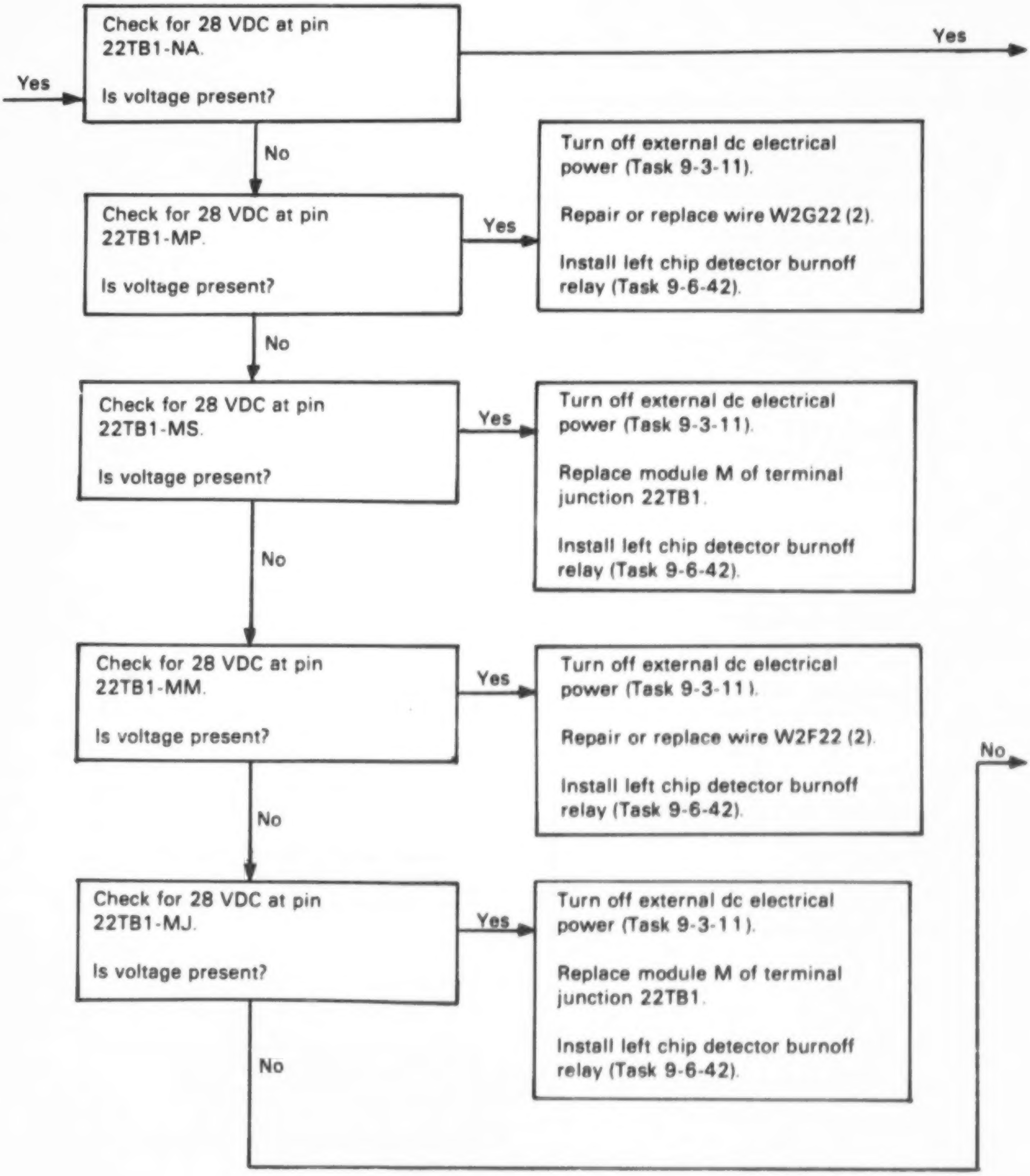
Repair or replace wire W13B22N (2).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


Yes
Yes
Yes
Check for continuity between pins 22TB1-ME to 22TB1-MH.
Is continuity present?
Yes
Check for continuity from pin 22TB1-MH to 22TB1-NC.
Is continuity present?
Yes
No
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burnoff relay (Task 9-6-42).
No
Replace resistor 1R1 (Task 9-6-58).
Install left chip detector burnoff relay (Task 9-6-42).
Yes
Check for continuity from pin 22TB1-NC to 22TB1-NG.
Is continuity present?
Yes
Check for continuity from pin 22TB1-NG to 22TB1-MD.
Is continuity present?
Yes
No
Replace module N of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burnoff relay (Task 9-6-42).
No
Repair or replace wire W1D22 (2).
Install left chip detector burnoff relay (Task 9-6-42).
Yes
Replace module M of terminal junction 22TB1 (Task 9-6-47).
Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for 28 VDC at pin 22TB1-NA.

Is voltage present?

Check for 28 VDC at pin 22TB1-MP.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire W2G22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MS.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Replace module M of terminal junction 22TB1.

Install left chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MM.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire W2F22 (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MJ.

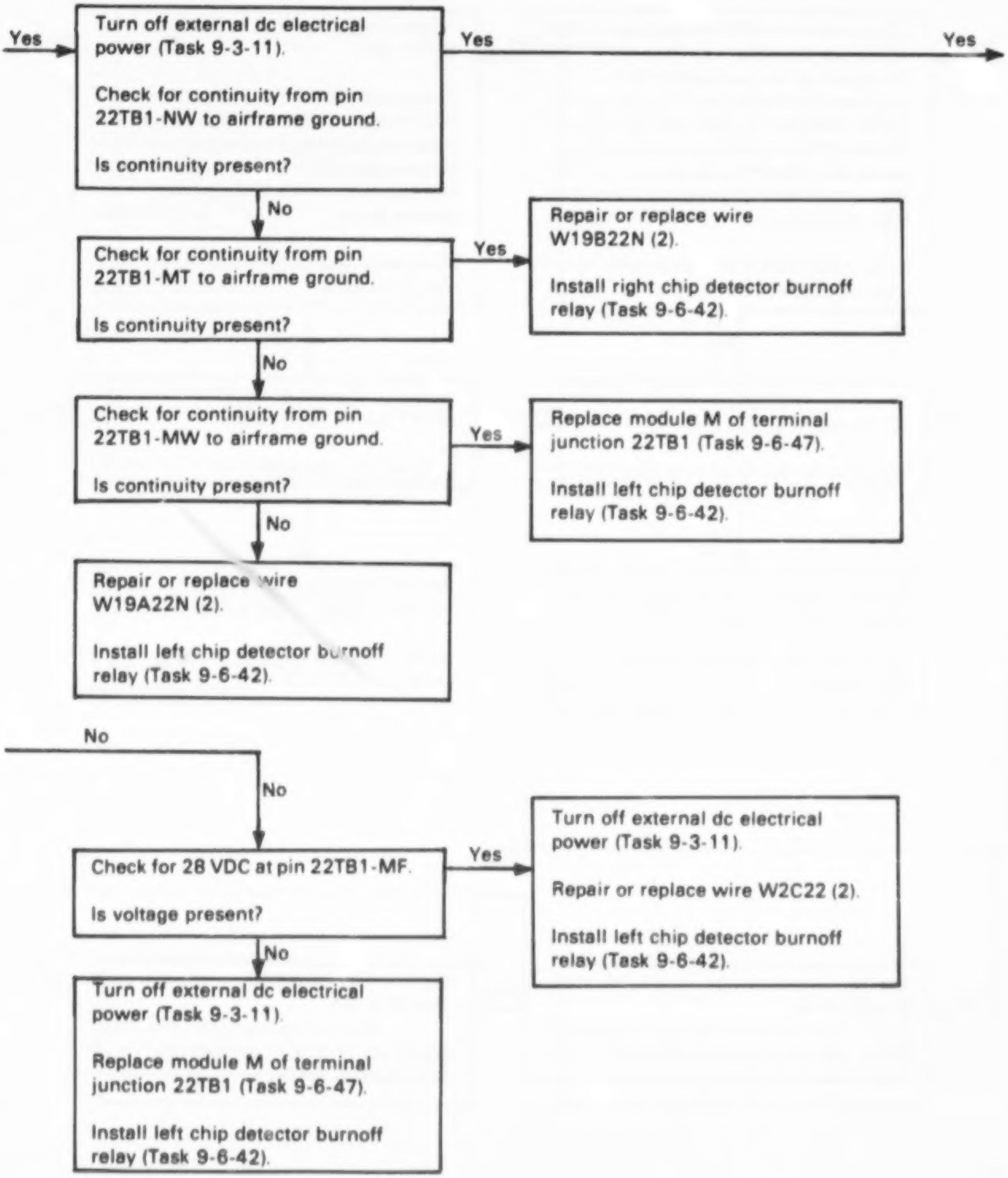
Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Replace module M of terminal junction 22TB1.

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 22TB1-NW to airframe ground.

Is continuity present?

Check for continuity from pin 22TB1-MT to airframe ground.

Is continuity present?

Repair or replace wire W19B22N (2).

Install right chip detector burnoff relay (Task 9-6-42).

Check for continuity from pin 22TB1-MW to airframe ground.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Repair or replace wire W19A22N (2).

Install left chip detector burnoff relay (Task 9-6-42).

Check for 28 VDC at pin 22TB1-MF.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire W2C22 (2).

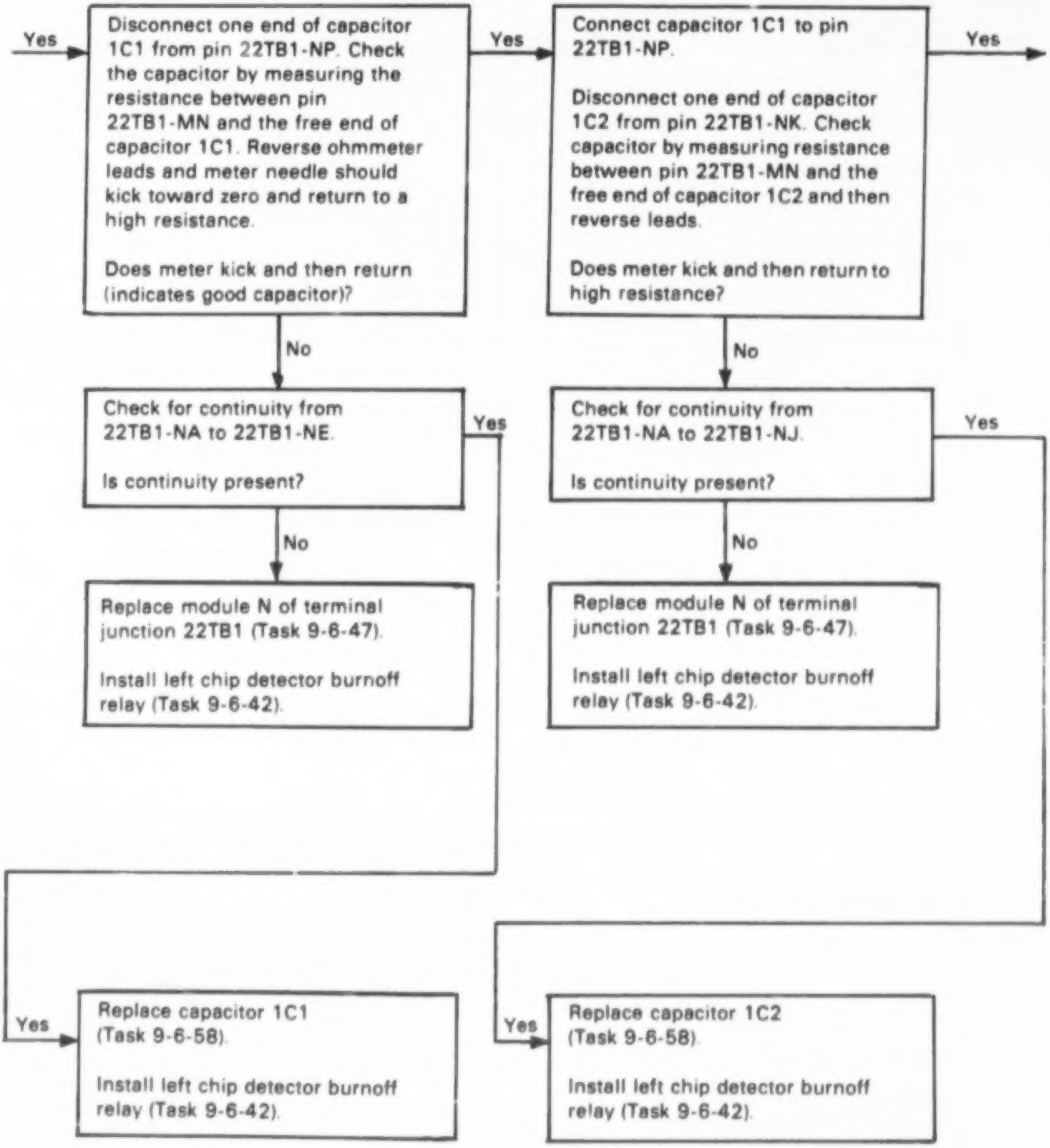
Install left chip detector burnoff relay (Task 9-6-42).

Turn off external dc electrical power (Task 9-3-11).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHELLING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Disconnect one end of capacitor 1C1 from pin 22TB1-NP. Check the capacitor by measuring the resistance between pin 22TB1-MN and the free end of capacitor 1C1. Reverse ohmmeter leads and meter needle should kick toward zero and return to a high resistance.

Does meter kick and then return (indicates good capacitor)?

Connect capacitor 1C1 to pin 22TB1-NP.

Disconnect one end of capacitor 1C2 from pin 22TB1-NK. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C2 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NE.

Is continuity present?

Check for continuity from 22TB1-NA to 22TB1-NJ.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

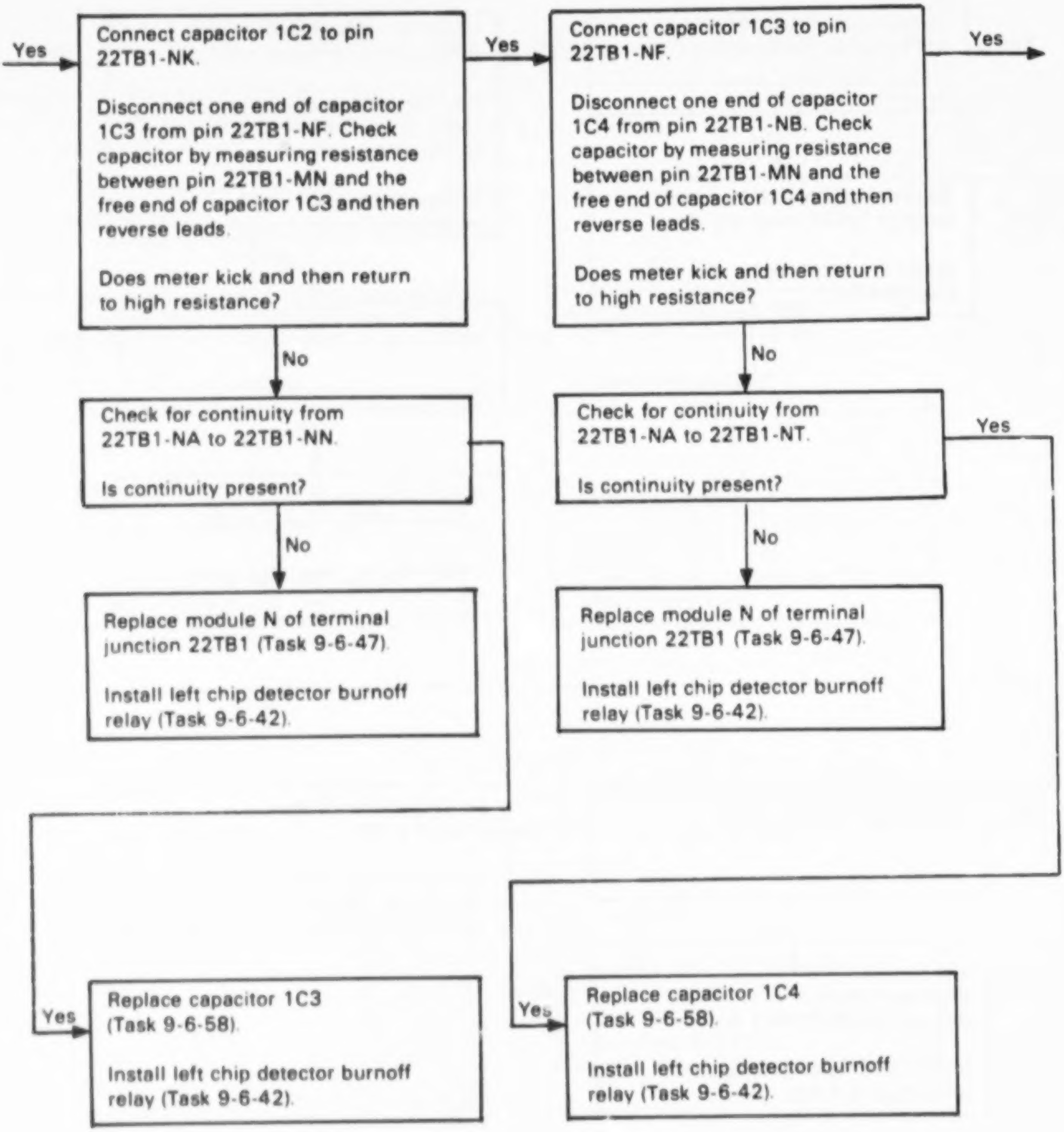
Replace capacitor 1C1 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C2 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHELLING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Connect capacitor 1C2 to pin 22TB1-NK.

Disconnect one end of capacitor 1C3 from pin 22TB1-NF. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C3 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NN.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C3 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

Connect capacitor 1C3 to pin 22TB1-NF.

Disconnect one end of capacitor 1C4 from pin 22TB1-NB. Check capacitor by measuring resistance between pin 22TB1-MN and the free end of capacitor 1C4 and then reverse leads.

Does meter kick and then return to high resistance?

Check for continuity from 22TB1-NA to 22TB1-NT.

Is continuity present?

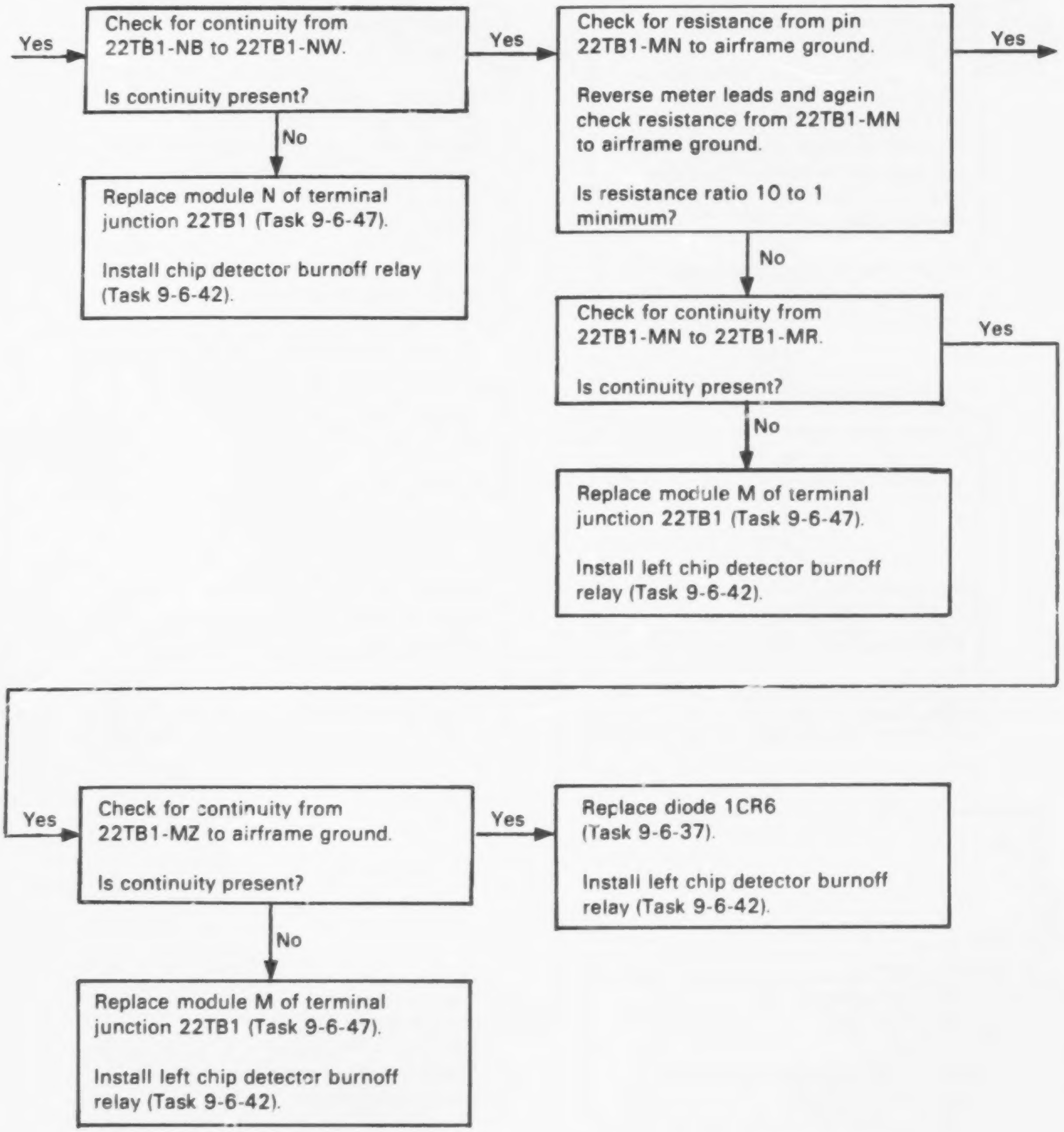
Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace capacitor 1C4 (Task 9-6-58).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHELLING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for continuity from 22TB1-NB to 22TB1-NW.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install chip detector burnoff relay (Task 9-6-42).

Check for resistance from pin 22TB1-MN to airframe ground.

Reverse meter leads and again check resistance from 22TB1-MN to airframe ground.

Is resistance ratio 10 to 1 minimum?

Check for continuity from 22TB1-MN to 22TB1-MR.

Is continuity present?

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Check for continuity from 22TB1-MZ to airframe ground.

Is continuity present?

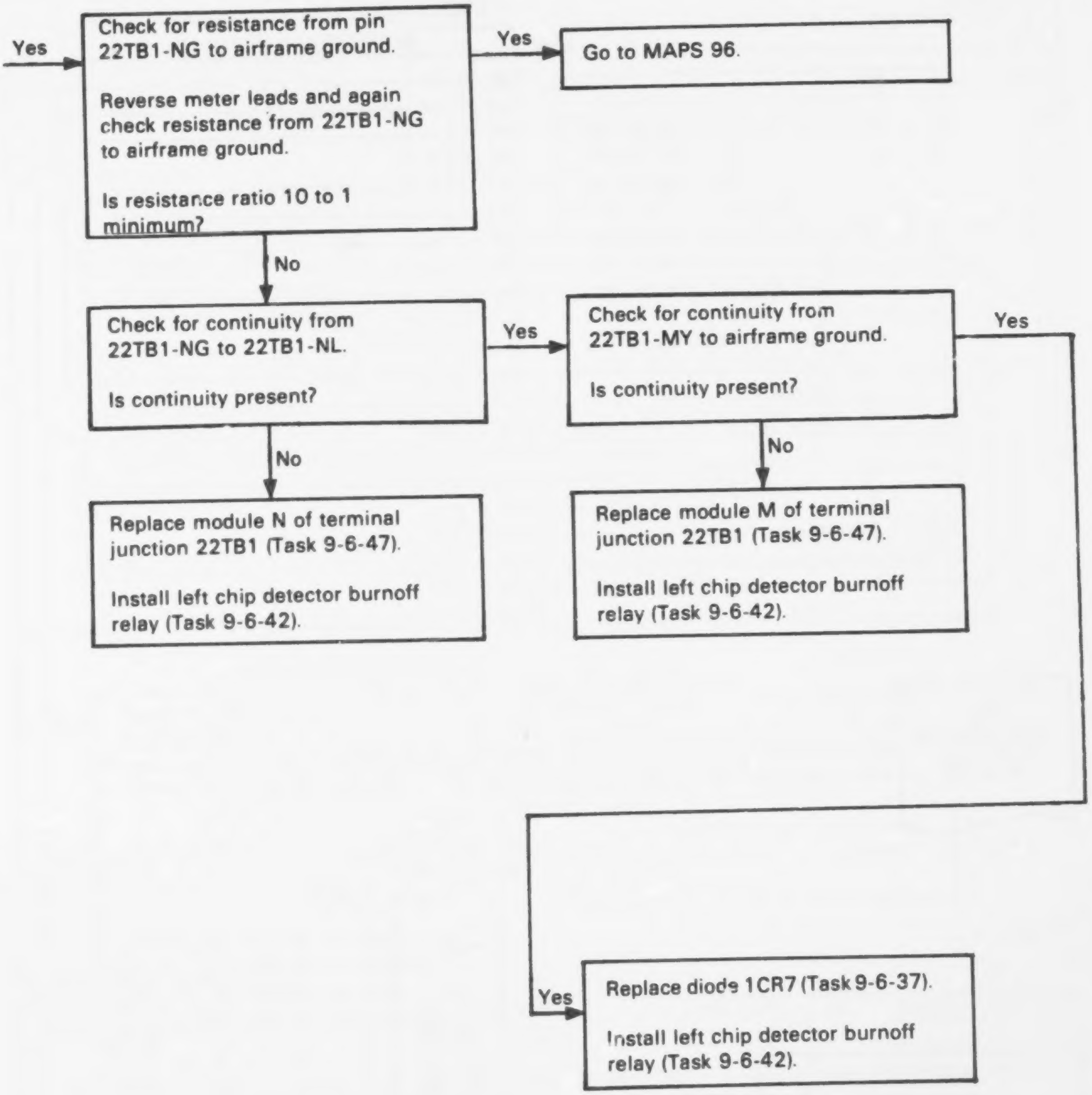
Replace diode 1CR6 (Task 9-6-37).

Install left chip detector burnoff relay (Task 9-6-42).

Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHELLING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)



Check for resistance from pin 22TB1-NG to airframe ground.

Reverse meter leads and again check resistance from 22TB1-NG to airframe ground.

Is resistance ratio 10 to 1 minimum?

Go to MAPS 96.

Check for continuity from 22TB1-NG to 22TB1-NL.

Is continuity present?

Check for continuity from 22TB1-MY to airframe ground.

Is continuity present?

Replace module N of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

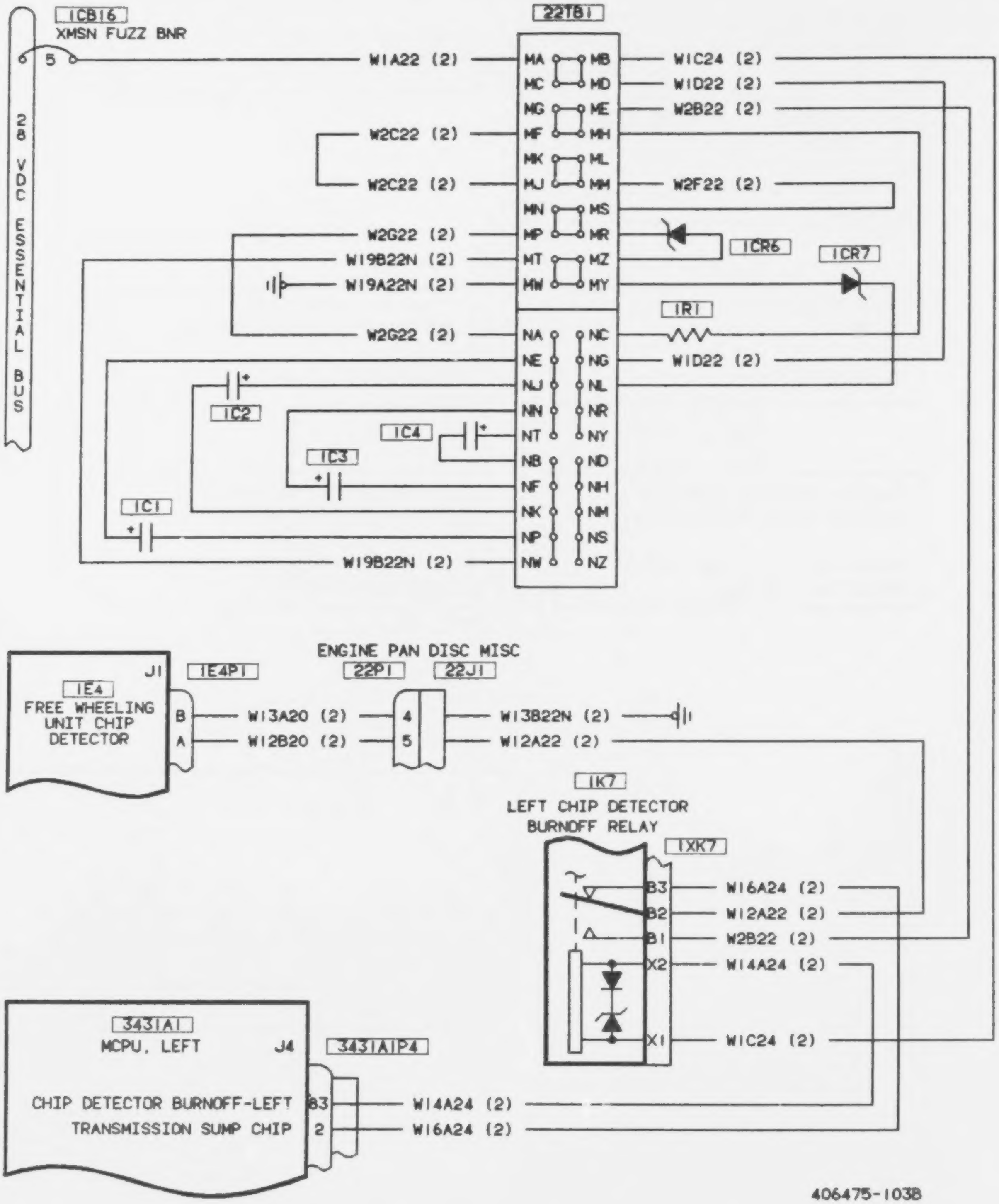
Replace module M of terminal junction 22TB1 (Task 9-6-47).

Install left chip detector burnoff relay (Task 9-6-42).

Replace diode 1CR7 (Task 9-6-37).

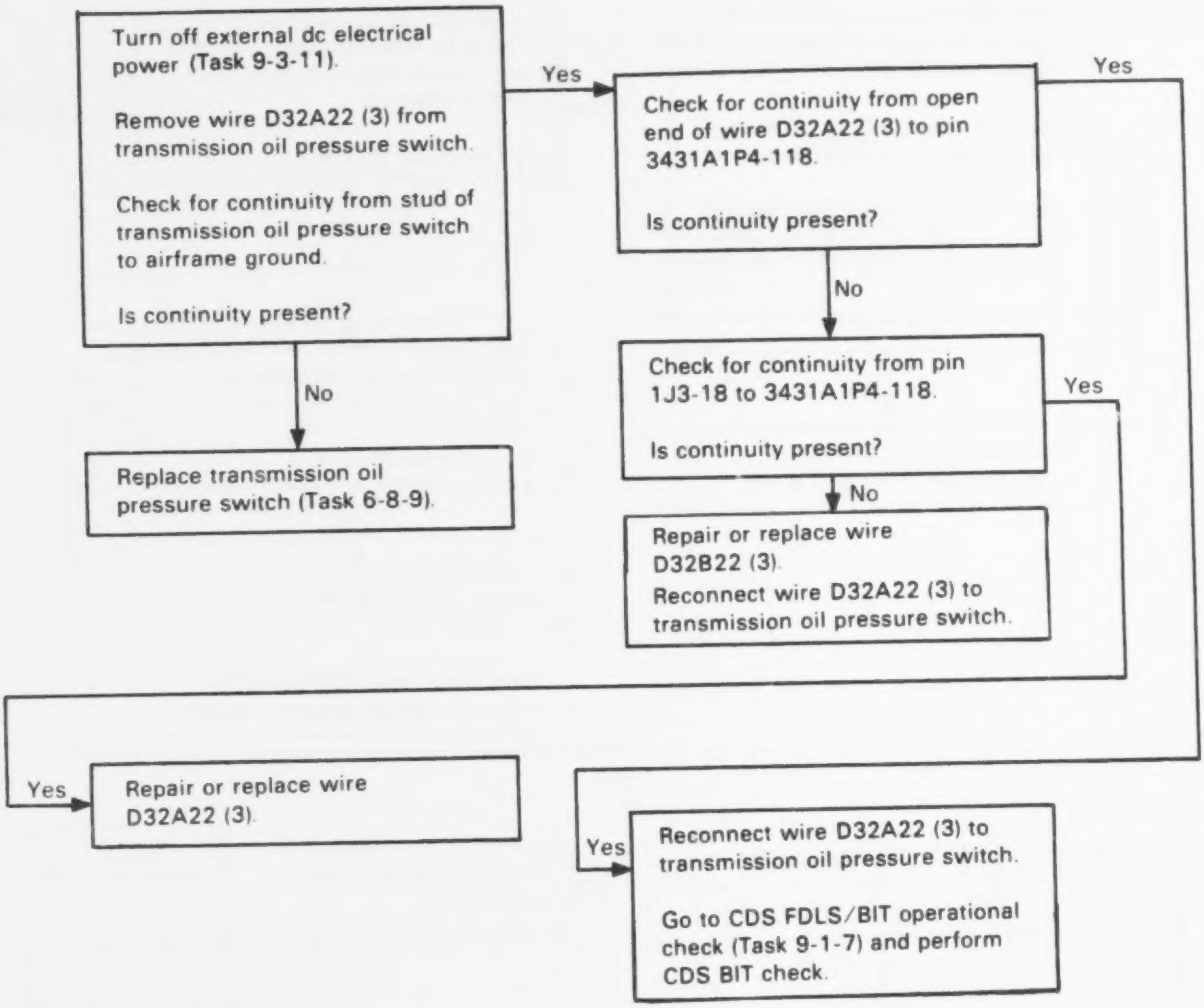
Install left chip detector burnoff relay (Task 9-6-42).

97. FREEWHEELING UNIT CHIP DETECTOR FUZZ BURNER FAILURE-SPECIAL TEST TOOL LED DOES NOT FLASH WHEN TEST SWITCH IS SET TO ON (CONT)


1CB16
XMSN FUZZ BNR
5
28 VDC ESSENTIAL BUS
22TB1
W1A22 (2)
W2C22 (2)
W2C22 (2)
W2G22 (2)
W19B22N (2)
W19A22N (2)
W2G22 (2)
MA
MB
MC
MD
MG
ME
MF
MH
MK
ML
MJ
MM
MN
MS
MP
MR
MT
MZ
MW
MY
NA
NC
NE
NG
NJ
NL
NN
NR
NT
NY
NB
ND
NF
NH
NK
NM
NP
NS
NW
NZ
W1C24 (2)
W1D22 (2)
W2B22 (2)
W2F22 (2)
1CR6
1CR7
1R1
W1D22 (2)
1C2
1C4
1C3
1C1
W19B22N (2)
ENGINE PAN DISC MISC
22P1
22J1
1E4
FREE WHEELING UNIT CHIP DETECTOR
J1
1E4P1
B
A
W13A20 (2)
W12B20 (2)
4
5
W13B22N (2)
W12A22 (2)
1K7
LEFT CHIP DETECTOR BURNOFF RELAY
1XK7
B3
B2
B1
X2
X1
W16A24 (2)
W12A22 (2)
W2B22 (2)
W14A24 (2)
W1C24 (2)
3431A1
MCPU, LEFT
J4
3431A1P4
CHIP DETECTOR BURNOFF-LEFT
TRANSMISSION SUMP CHIP
83
2
W14A24 (2)
W16A24 (2)

406475-1038

98. CAUTION MESSAGE LOW OIL PRESS XMSN DOES NOT COME ON WHEN EXTERNAL DC POWER IS APPLIED.



Turn off external dc electrical power (Task 9-3-11).

Remove wire D32A22 (3) from transmission oil pressure switch.

Check for continuity from stud of transmission oil pressure switch to airframe ground.

Is continuity present?

Check for continuity from open end of wire D32A22 (3) to pin 3431A1P4-118.

Is continuity present?

Replace transmission oil pressure switch (Task 6-8-9).

Check for continuity from pin 1J3-18 to 3431A1P4-118.

Is continuity present?

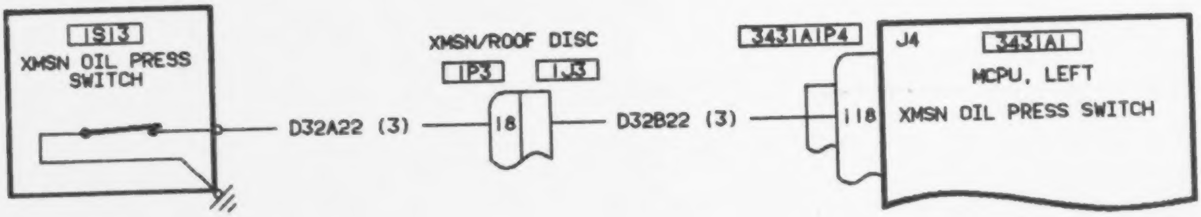
Repair or replace wire D32B22 (3).
Reconnect wire D32A22 (3) to transmission oil pressure switch.

Repair or replace wire D32A22 (3).

Reconnect wire D32A22 (3) to transmission oil pressure switch.

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

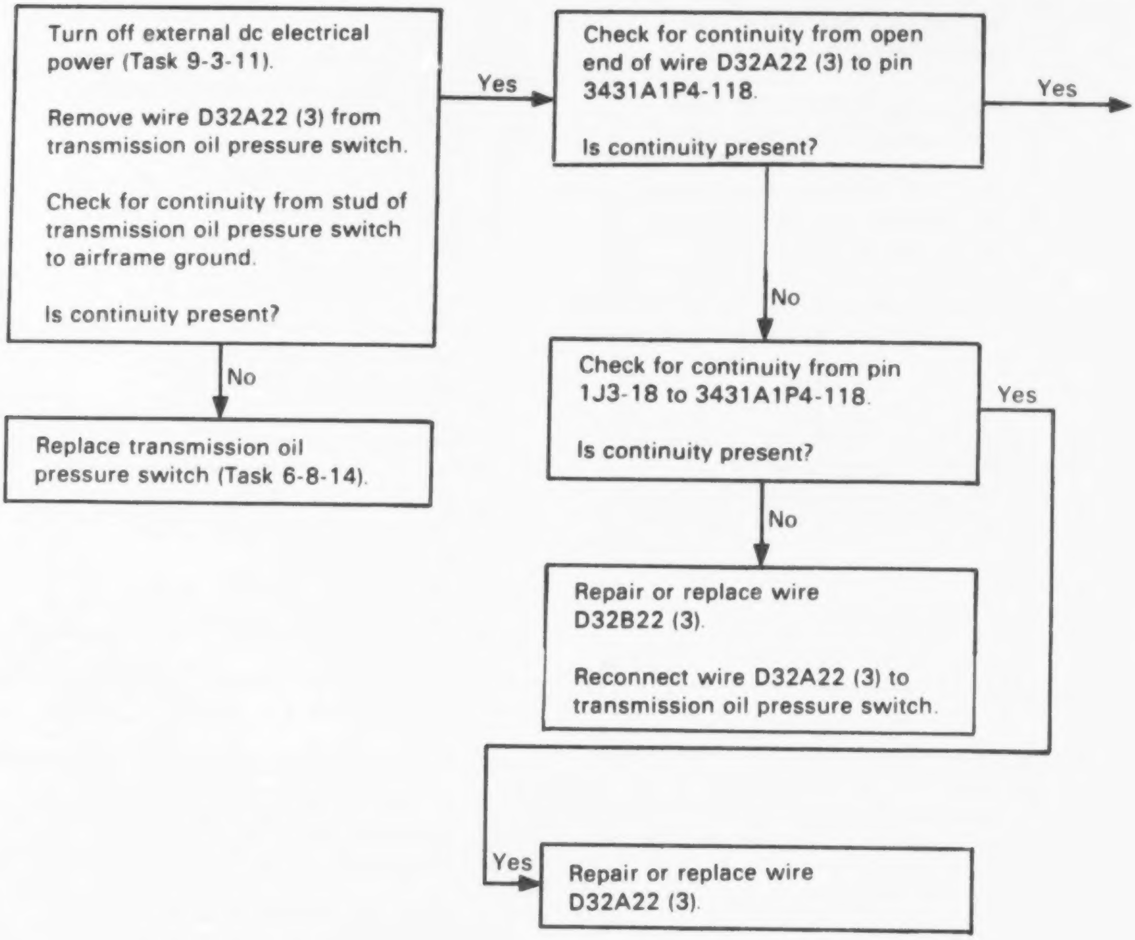
Yes
Yes
No
No
Yes
No
Yes
Yes



1S13
XMSN OIL PRESS SWITCH
D32A22 (3)
XMSN/ROOF DISC
1P3
1J3
18
D32B22 (3)
3431A1P4
118
J4
3431A1
MCPU, LEFT
XMSN OIL PRESS SWITCH

406475-99A

99. CAUTION MESSAGE LOW OIL PRESS XMSN WILL NOT GO OUT WITH HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON



Turn off external dc electrical power (Task 9-3-11).

Remove wire D32A22 (3) from transmission oil pressure switch.

Check for continuity from stud of transmission oil pressure switch to airframe ground.

Is continuity present?

Replace transmission oil pressure switch (Task 6-8-14).

Check for continuity from open end of wire D32A22 (3) to pin 3431A1P4-118.

Is continuity present?

Check for continuity from pin 1J3-18 to 3431A1P4-118.

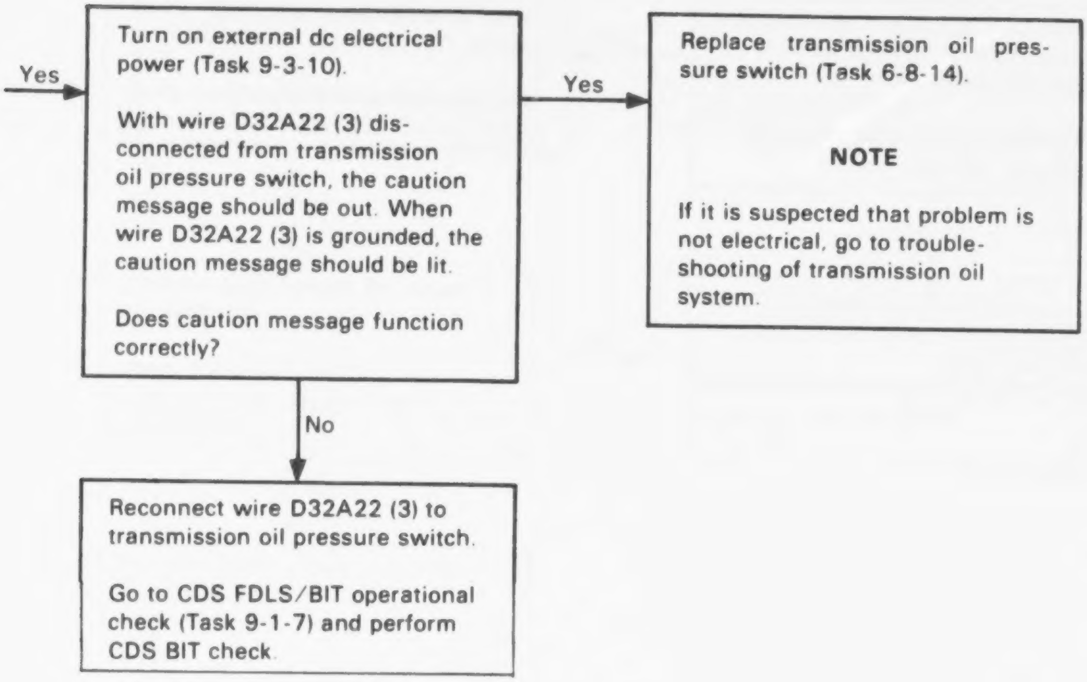
Is continuity present?

Repair or replace wire D32B22 (3).

Reconnect wire D32A22 (3) to transmission oil pressure switch.

Repair or replace wire D32A22 (3).

99. CAUTION MESSAGE LOW OIL PRESS XMSN WILL NOT GO OUT WITH HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON (CONT)



Turn on external dc electrical power (Task 9-3-10).

With wire D32A22 (3) disconnected from transmission oil pressure switch, the caution message should be out. When wire D32A22 (3) is grounded, the caution message should be lit.

Does caution message function correctly?

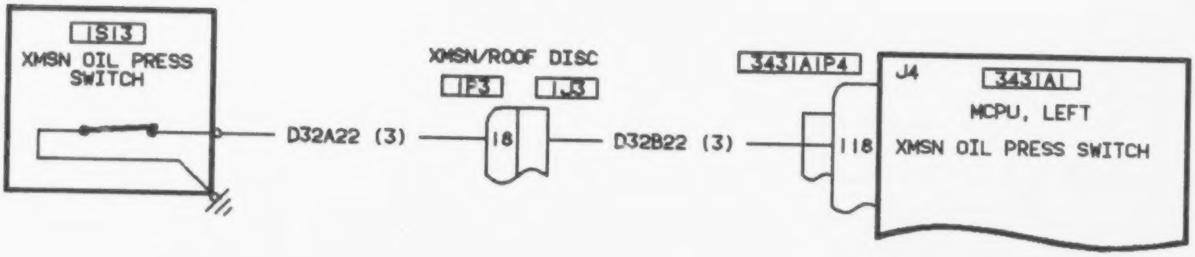
Replace transmission oil pressure switch (Task 6-8-14).

NOTE

If it is suspected that problem is not electrical, go to troubleshooting of transmission oil system.

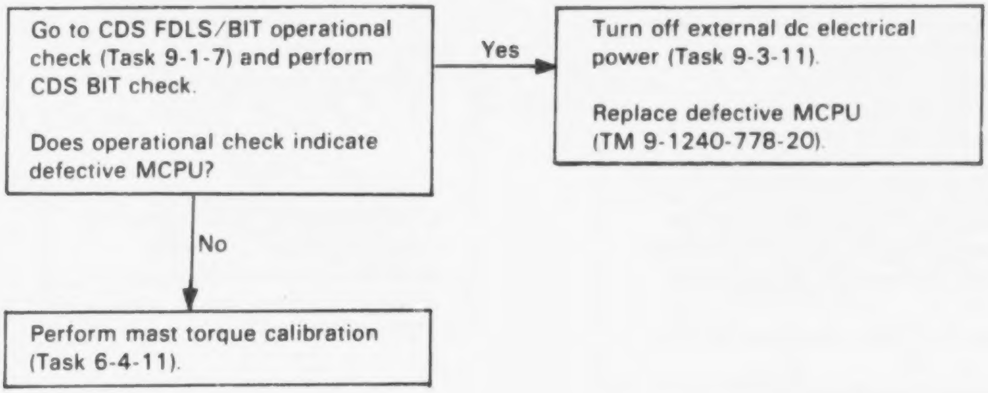
Reconnect wire D32A22 (3) to transmission oil pressure switch.

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.


1S13
XMSN OIL PRESS SWITCH
D32A22 (3)
XMSN/ROOF DISC
1P3
1J3
18
D32B22 (3)
343A1P4
J4
343A1
MCPU, LEFT
118
XMSN OIL PRESS SWITCH

406475-99A

100. WARNING MESSAGE LOW RPM DOES NOT GO OUT WITH HELICOPTER AT 100% RPM



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

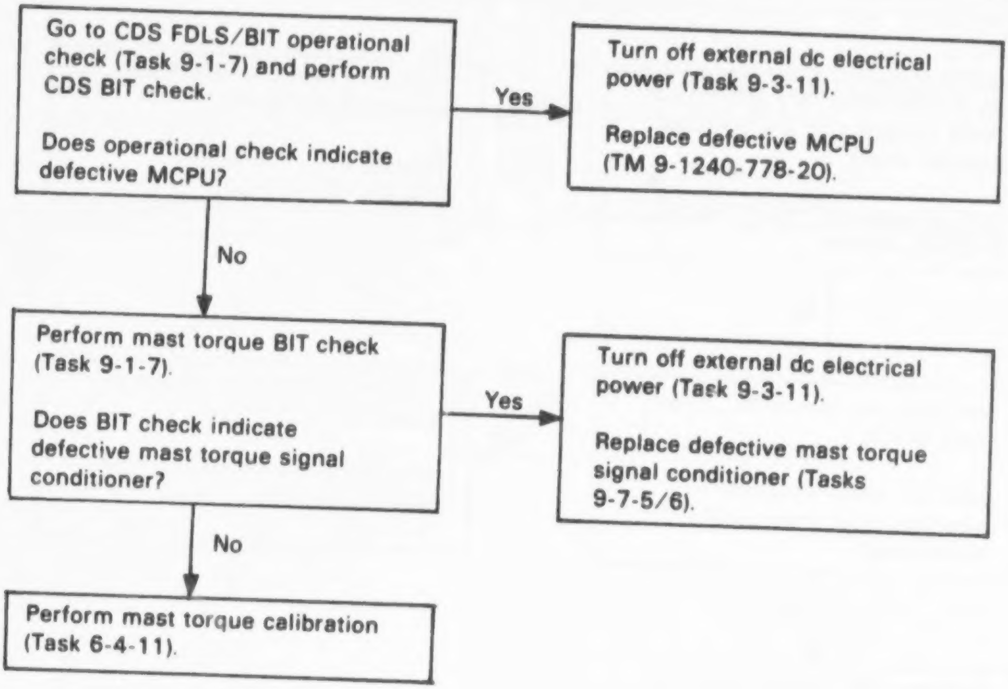
Does operational check indicate defective MCPU?

Turn off external dc electrical power (Task 9-3-11).

Replace defective MCPU (TM 9-1240-778-20).

Perform mast torque calibration (Task 6-4-11).

101. WARNING MESSAGE HIGH RPM DOES NOT COME ON OR IT COMES ON AT WRONG RPM



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Does operational check indicate defective MCPU?

Turn off external dc electrical power (Task 9-3-11).

Replace defective MCPU (TM 9-1240-778-20).

Perform mast torque BIT check (Task 9-1-7).

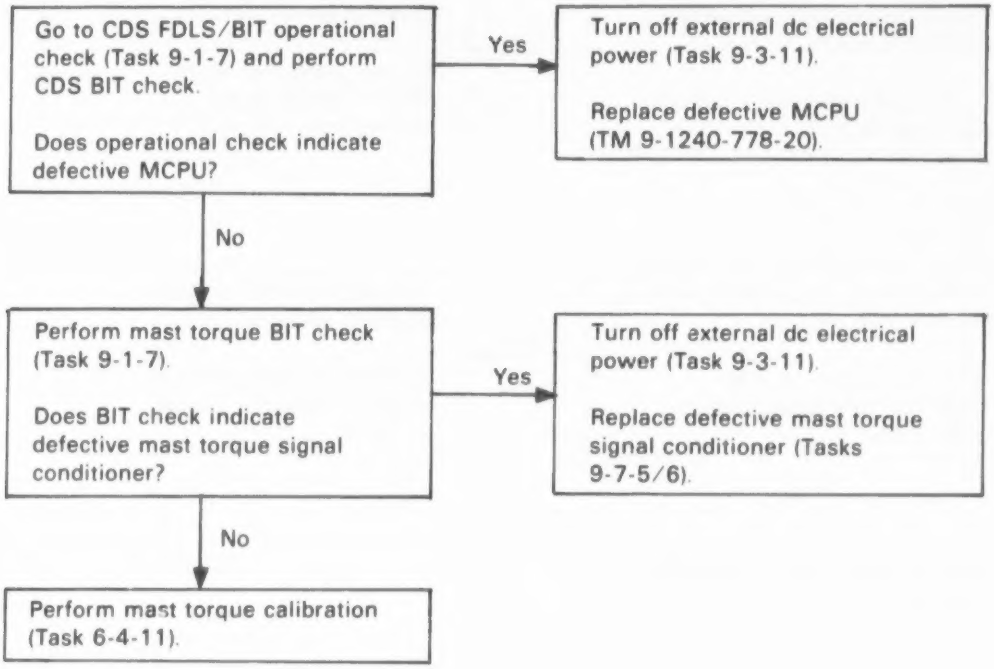
Does BIT check indicate defective mast torque signal conditioner?

Turn off external dc electrical power (Task 9-3-11).

Replace defective mast torque signal conditioner (Tasks 9-7-5/6).

Perform mast torque calibration (Task 6-4-11).

102. WARNING MESSAGE HIGH RPM DOES NOT GO OUT WHEN ROTOR RPM IS REDUCED TO 100%



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Does operational check indicate defective MCPU?

Turn off external dc electrical power (Task 9-3-11).

Replace defective MCPU (TM 9-1240-778-20).

Perform mast torque BIT check (Task 9-1-7).

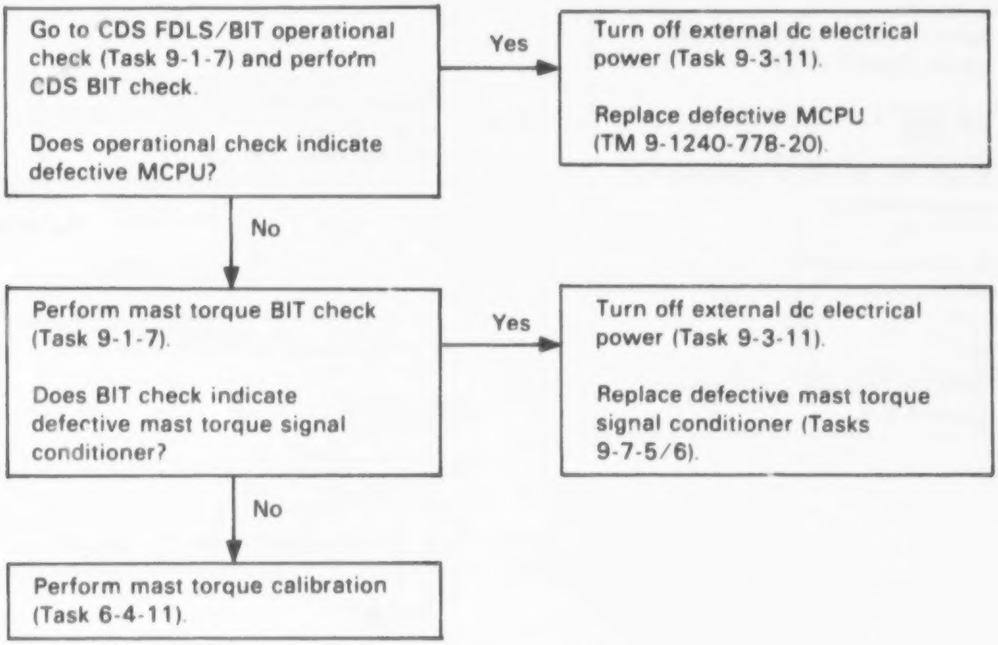
Does BIT check indicate defective mast torque signal conditioner?

Turn off external dc electrical power (Task 9-3-11).

Replace defective mast torque signal conditioner (Tasks 9-7-5/6).

Perform mast torque calibration (Task 6-4-11).

103. WARNING MESSAGE LOW RPM DOES NOT COME ON WHEN ROTOR RPM IS REDUCED TO 97% OR IT COMES ON AT OTHER RPM



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Does operational check indicate defective MCPU?

Turn off external dc electrical power (Task 9-3-11).

Replace defective MCPU (TM 9-1240-778-20).

Perform mast torque BIT check (Task 9-1-7).

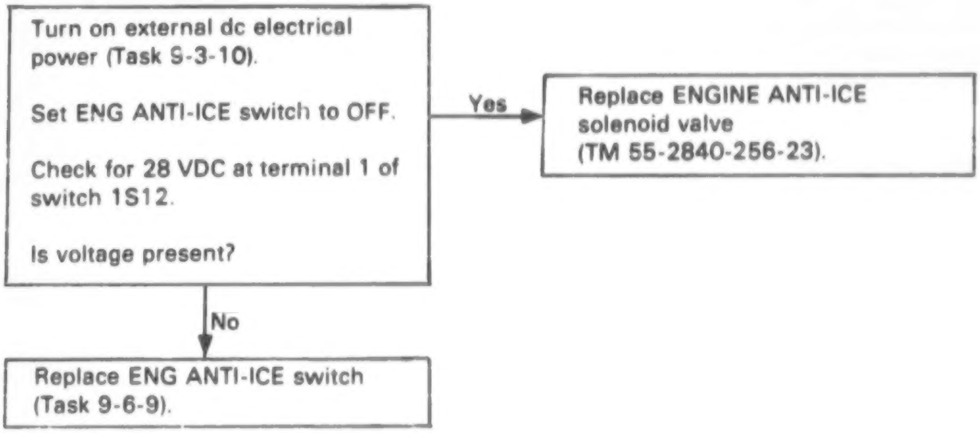
Does BIT check indicate defective mast torque signal conditioner?

Turn off external dc electrical power (Task 9-3-11).

Replace defective mast torque signal conditioner (Tasks 9-7-5/6).

Perform mast torque calibration (Task 6-4-11).

104. ENGINE ANTI-ICE VALVE DOES NOT OPEN (NO RISE IN TGT) WHEN ENG ANTI-ICE SWITCH IS SET TO ENG ANTI-ICE AND HELICOPTER AT IDLE RPM



Turn on external dc electrical power (Task 9-3-10).

Set ENG ANTI-ICE switch to OFF.

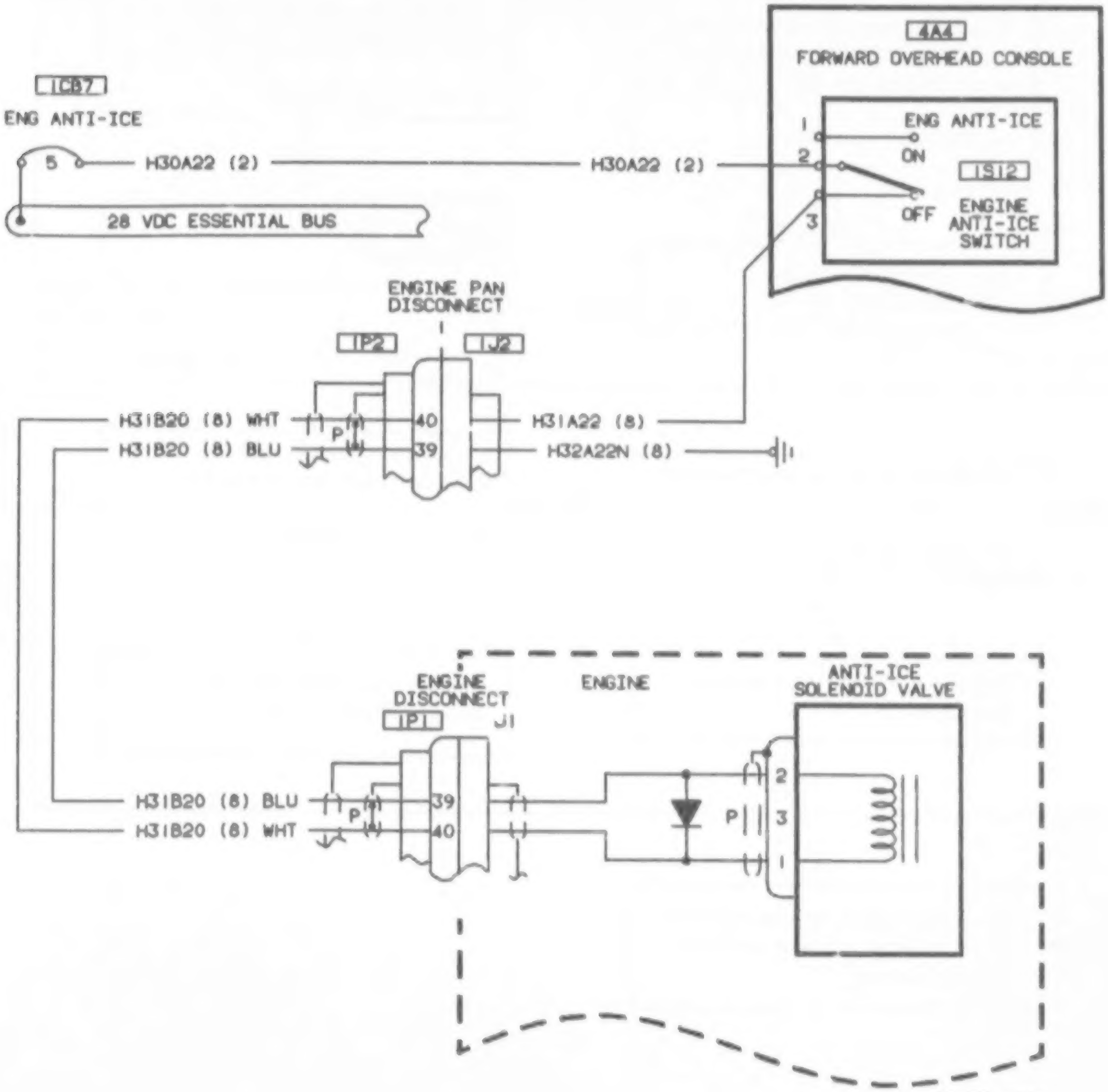
Check for 28 VDC at terminal 1 of switch 1S12.

Is voltage present?

Replace ENGINE ANTI-ICE solenoid valve (TM 55-2840-256-23).

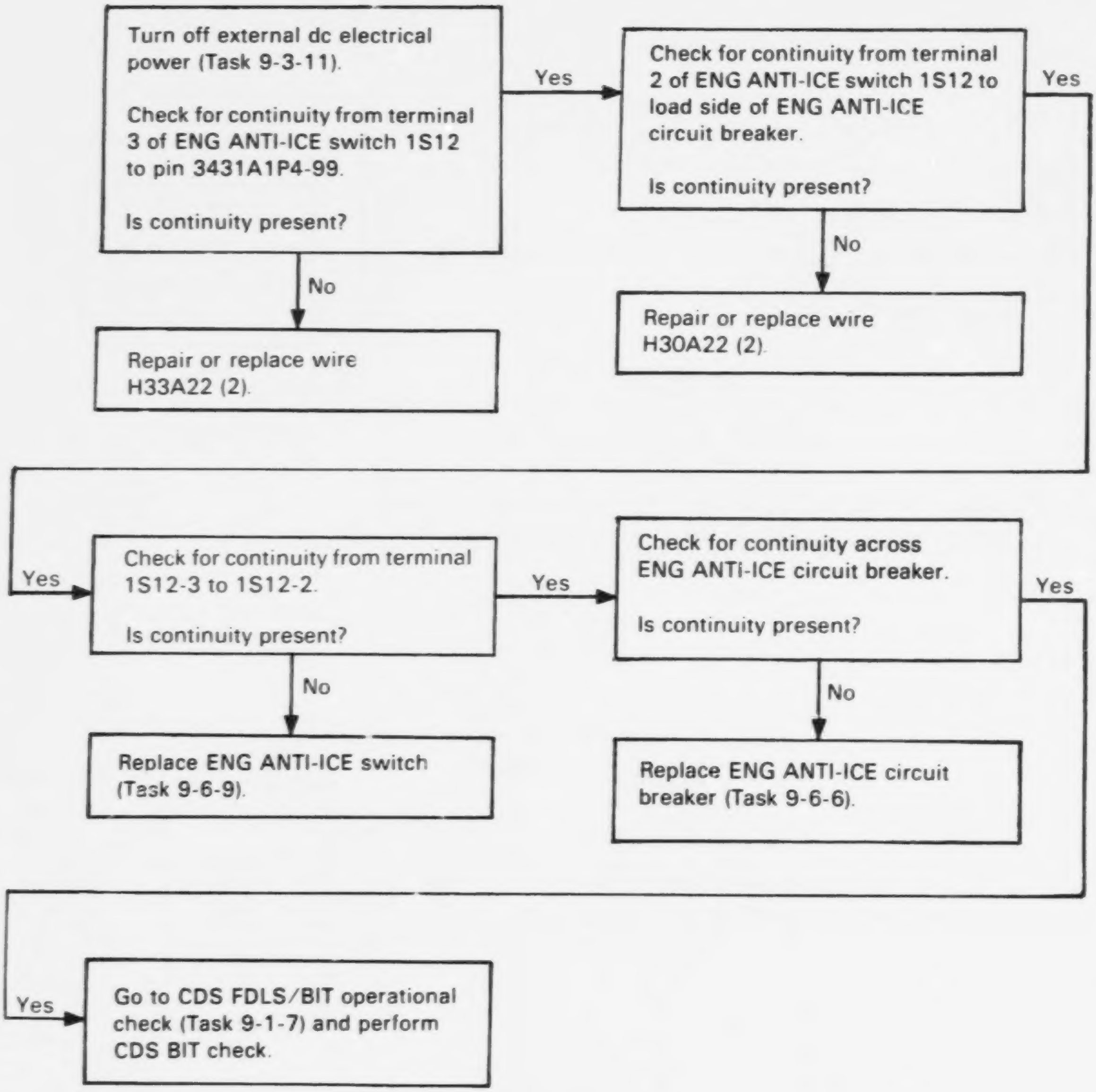
Replace ENG ANTI-ICE switch (Task 9-6-9).

104. ENGINE ANTI-ICE VALVE DOES NOT OPEN (NO RISE IN TGT) WHEN ENG ANTI-ICE SWITCH IS SET TO ENG ANTI-ICE AND HELICOPTER AT IDLE RPM (CONT)

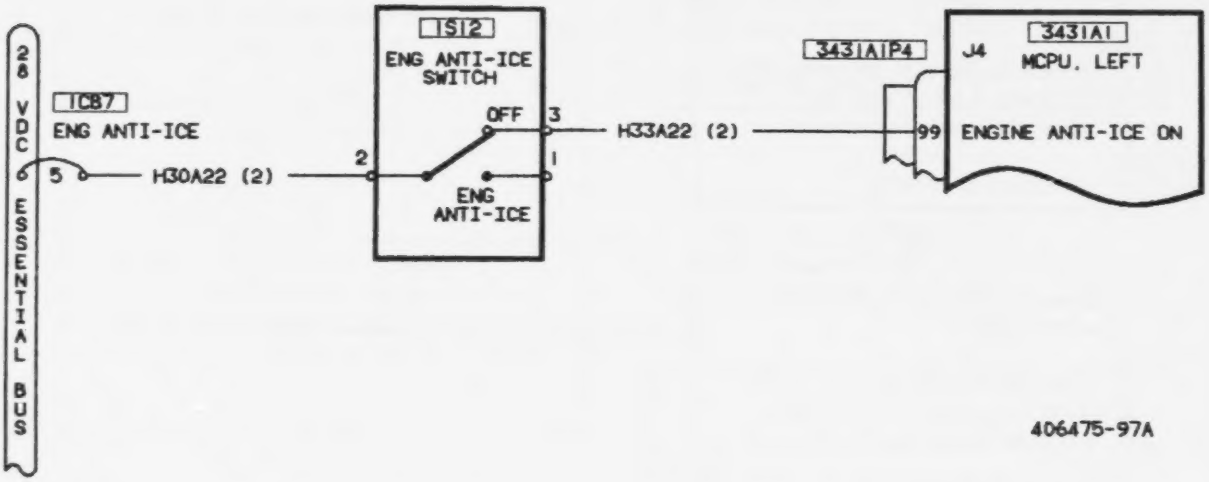

1CB7
ENG ANTI-ICE
5
H30A22 (2)
H30A22 (2)
28 VDC ESSENTIAL BUS
4A4
FORWARD OVERHEAD CONSOLE
1
2
3
ENG ANTI-ICE
ON
OFF
1S12
ENGINE ANTI-ICE SWITCH
ENGINE PAN DISCONNECT
1P2
1J2
H31B20 (8) WHT
H31B20 (8) BLU
P
40
39
H31A22 (8)
H32A22N (8)
ENGINE DISCONNECT
1P1
J1
ENGINE
ANTI-ICE SOLENOID VALVE
H31B20 (8) BLU
H31B20 (8) WHT
P
39
40
P
2
3
1

406475-100A

105. ADVISORY MESSAGE ENG ANTI-ICE ON IS NOT LIT (HELICOPTER AT IDLE AND ENG ANTI-ICE SWITCH IS SET TO OFF)


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from terminal 3 of ENG ANTI-ICE switch 1S12 to pin 3431A1P4-99.
Is continuity present?
Yes
No
Repair or replace wire H33A22 (2).
Check for continuity from terminal 2 of ENG ANTI-ICE switch 1S12 to load side of ENG ANTI-ICE circuit breaker.
Is continuity present?
Yes
No
Repair or replace wire H30A22 (2).
Yes
Check for continuity from terminal 1S12-3 to 1S12-2.
Is continuity present?
Yes
No
Replace ENG ANTI-ICE switch (Task 9-6-9).
Check for continuity across ENG ANTI-ICE circuit breaker.
Is continuity present?
Yes
No
Replace ENG ANTI-ICE circuit breaker (Task 9-6-6).
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

105. ADVISORY MESSAGE ENG ANTI-ICE ON IS NOT LIT (HELICOPTER AT IDLE AND ENG ANTI-ICE SWITCH IS SET TO OFF) (CONT)


28 VDC ESSENTIAL BUS
1CB7
ENG ANTI-ICE
5
H30A22 (2)
1S12
ENG ANTI-ICE SWITCH
2
OFF
3
1
ENG ANTI-ICE
H33A22 (2)
3431A1P4
J4
3431A1
MCPU, LEFT
99
ENGINE ANTI-ICE ON

406475-97A

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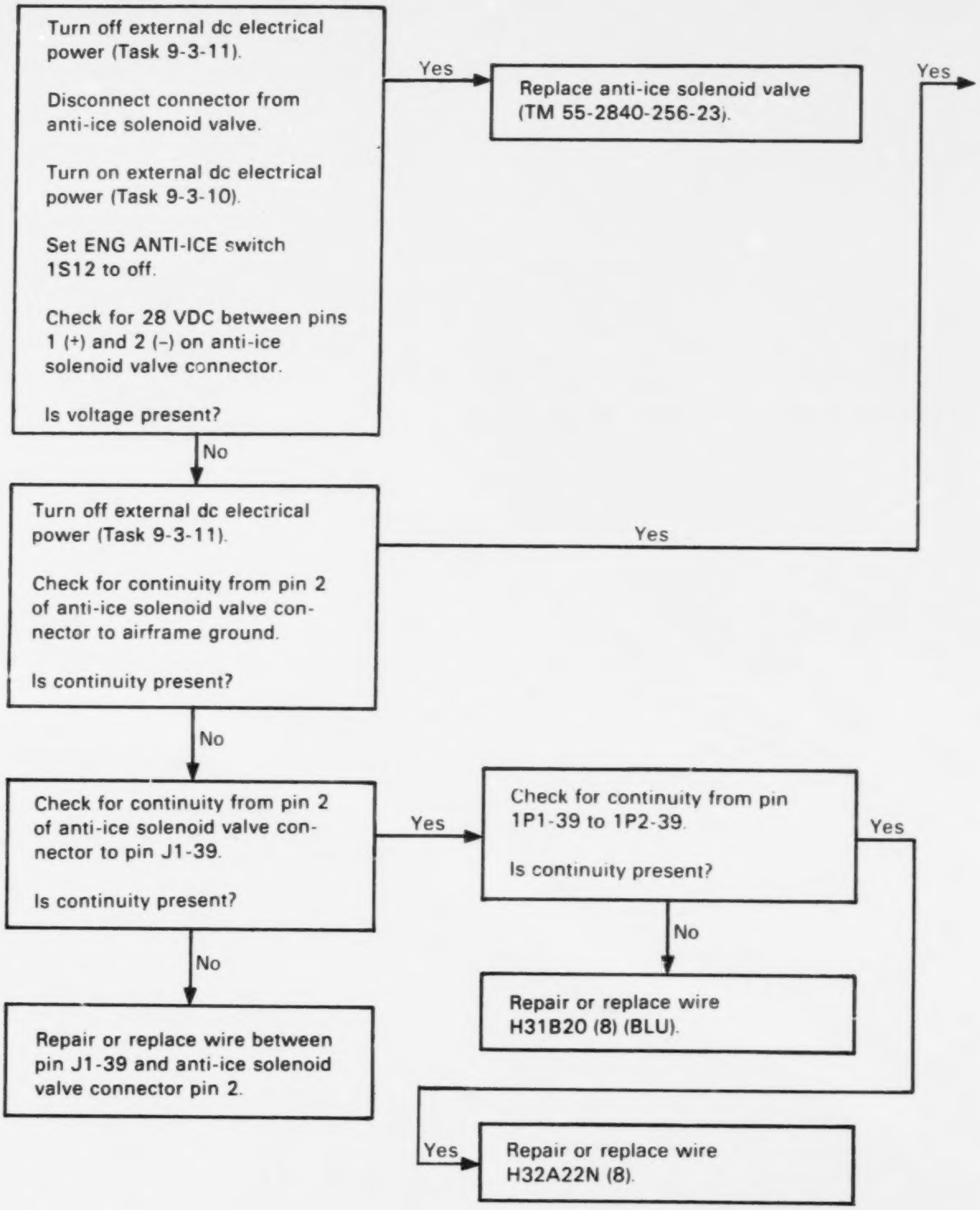
106. ANTI-ICE SOLENOID VALVE DOES NOT CLOSE, (NO REDUCTION IN TGT) (HELICOPTER AT IDLE, ENG ANTI-ICE SWITCH TO SET OFF)



Turn off external dc electrical power (Task 9-3-11).

Disconnect connector from anti-ice solenoid valve.

Turn on external dc electrical power (Task 9-3-10).

Set ENG ANTI-ICE switch 1S12 to off.

Check for 28 VDC between pins 1 (+) and 2 (–) on anti-ice solenoid valve connector.

Is voltage present?

Replace anti-ice solenoid valve (TM 55-2840-256-23).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2 of anti-ice solenoid valve connector to airframe ground.

Is continuity present?

Check for continuity from pin 2 of anti-ice solenoid valve connector to pin J1-39.

Is continuity present?

Check for continuity from pin 1P1-39 to 1P2-39.

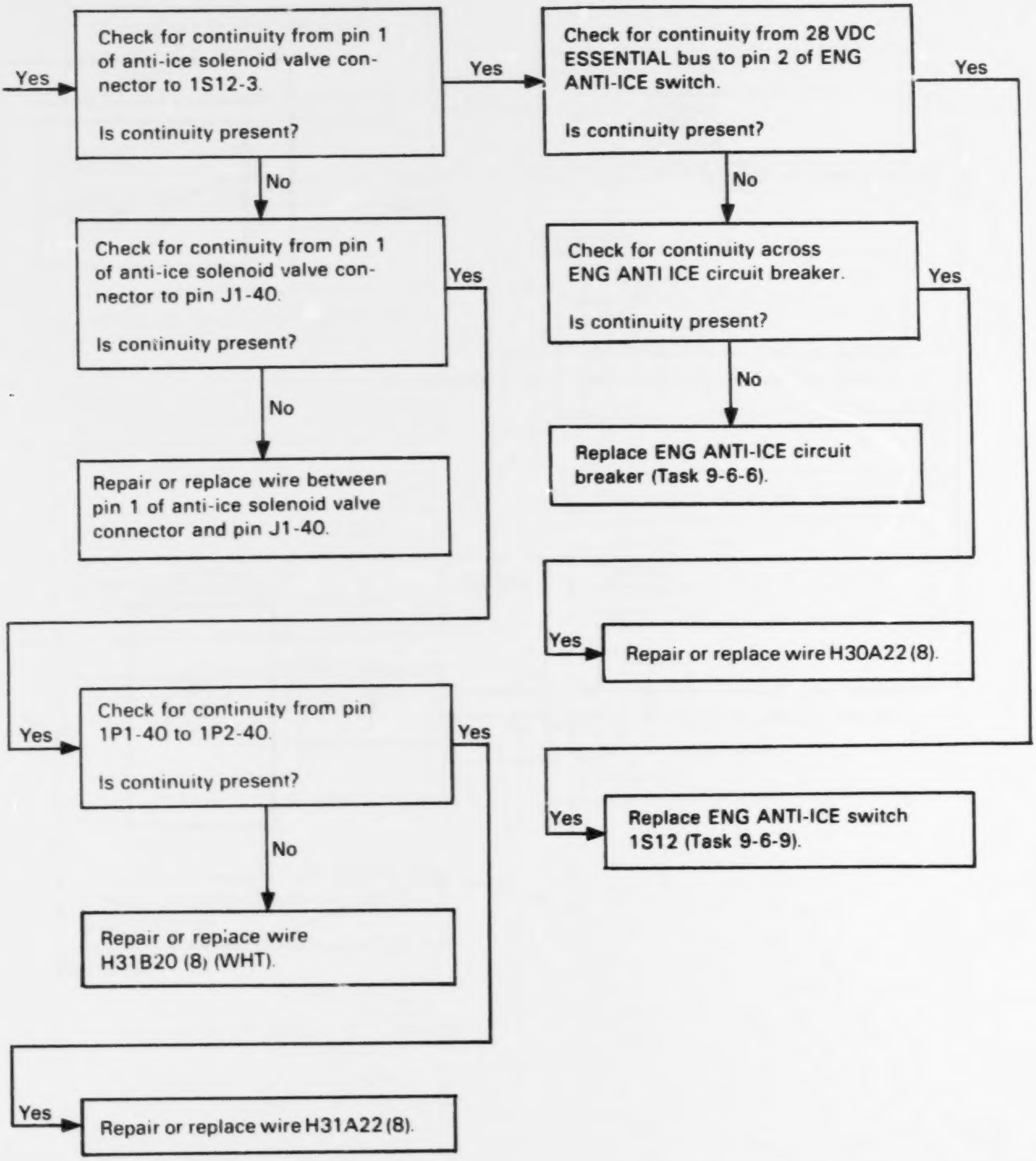
Is continuity present?

Repair or replace wire between pin J1-39 and anti-ice solenoid valve connector pin 2.

Repair or replace wire H31B20 (8) (BLU).

Repair or replace wire H32A22N (8).

106. ANTI-ICE SOLENOID VALVE DOES NOT CLOSE, (NO REDUCTION IN TGT) (HELICOPTER AT IDLE, ENG ANTI-ICE SWITCH SET TO OFF) (CONT)



Check for continuity from pin 1 of anti-ice solenoid valve connector to 1S12-3.

Is continuity present?

Check for continuity from pin 1 of anti-ice solenoid valve connector to pin J1-40.

Is continuity present?

Repair or replace wire between pin 1 of anti-ice solenoid valve connector and pin J1-40.

Check for continuity from pin 1P1-40 to 1P2-40.

Is continuity present?

Repair or replace wire H31B20 (8) (WHT).

Repair or replace wire H31A22 (8).

Check for continuity from 28 VDC ESSENTIAL bus to pin 2 of ENG ANTI-ICE switch.

Is continuity present?

Check for continuity across ENG ANTI ICE circuit breaker.

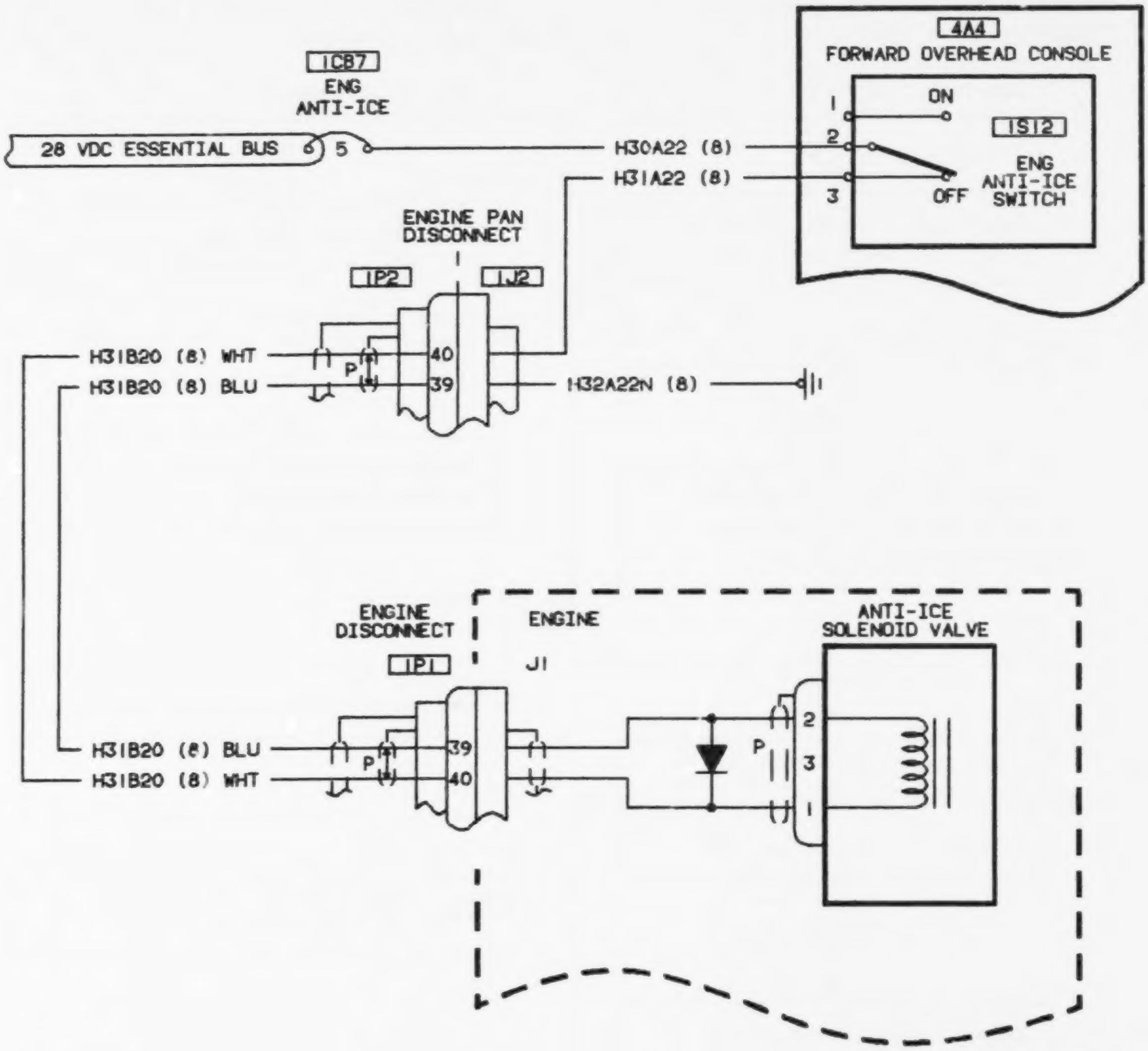
Is continuity present?

Replace ENG ANTI-ICE circuit breaker (Task 9-6-6).

Repair or replace wire H30A22 (8).

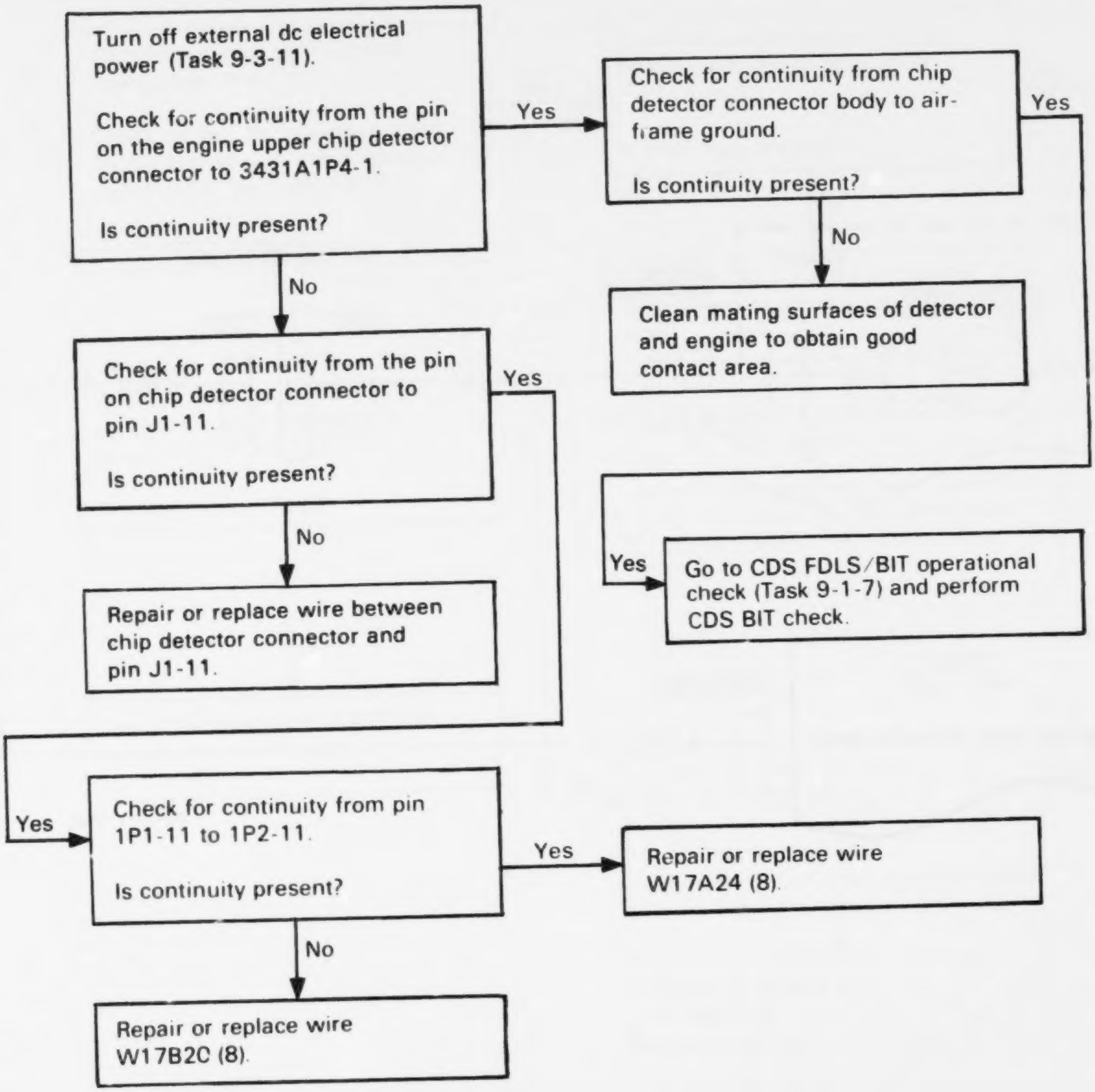
Replace ENG ANTI-ICE switch 1S12 (Task 9-6-9).

106. ANTI-ICE SOLENOID VALVE DOES NOT CLOSE, (NO REDUCTION IN TGT) (HELICOPTER AT IDLE, ENG ANTI-ICE SWITCH SET TO OFF) (CONT)

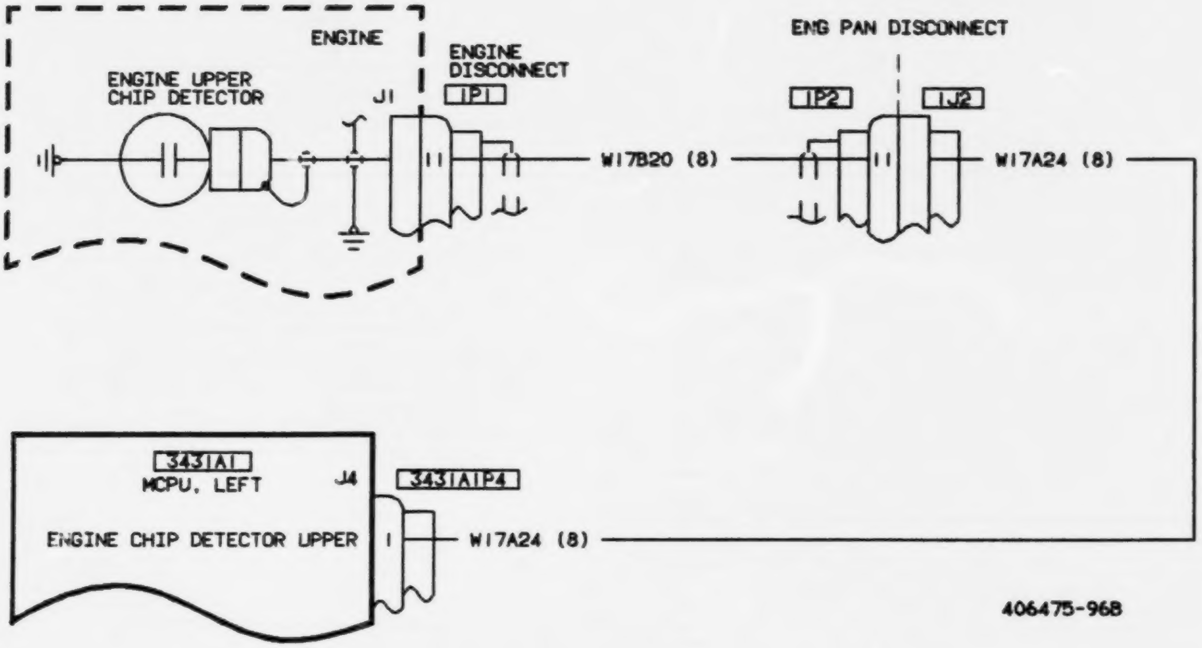

1CB7
ENG
ANTI-ICE
28 VDC ESSENTIAL BUS
5
H30A22 (8)
H31A22 (8)
4A4
FORWARD OVERHEAD CONSOLE
1
2
3
ON
OFF
1S12
ENG
ANTI-ICE
SWITCH
ENGINE PAN
DISCONNECT
1P2
1J2
H31B20 (8) WHT
H31B20 (8) BLU
P
40
39
H32A22N (8)
ENGINE
DISCONNECT
1P1
ENGINE
J1
H31B20 (8) BLU
H31B20 (8) WHT
P
39
40
ANTI-ICE
SOLENOID VALVE
P
2
3
1

406475-101B

107. CAUTION MESSAGE CHIP ENG UPPER DOES NOT COME ON (ENGINE UPPER CHIP DETECTOR CONNECTOR CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON)

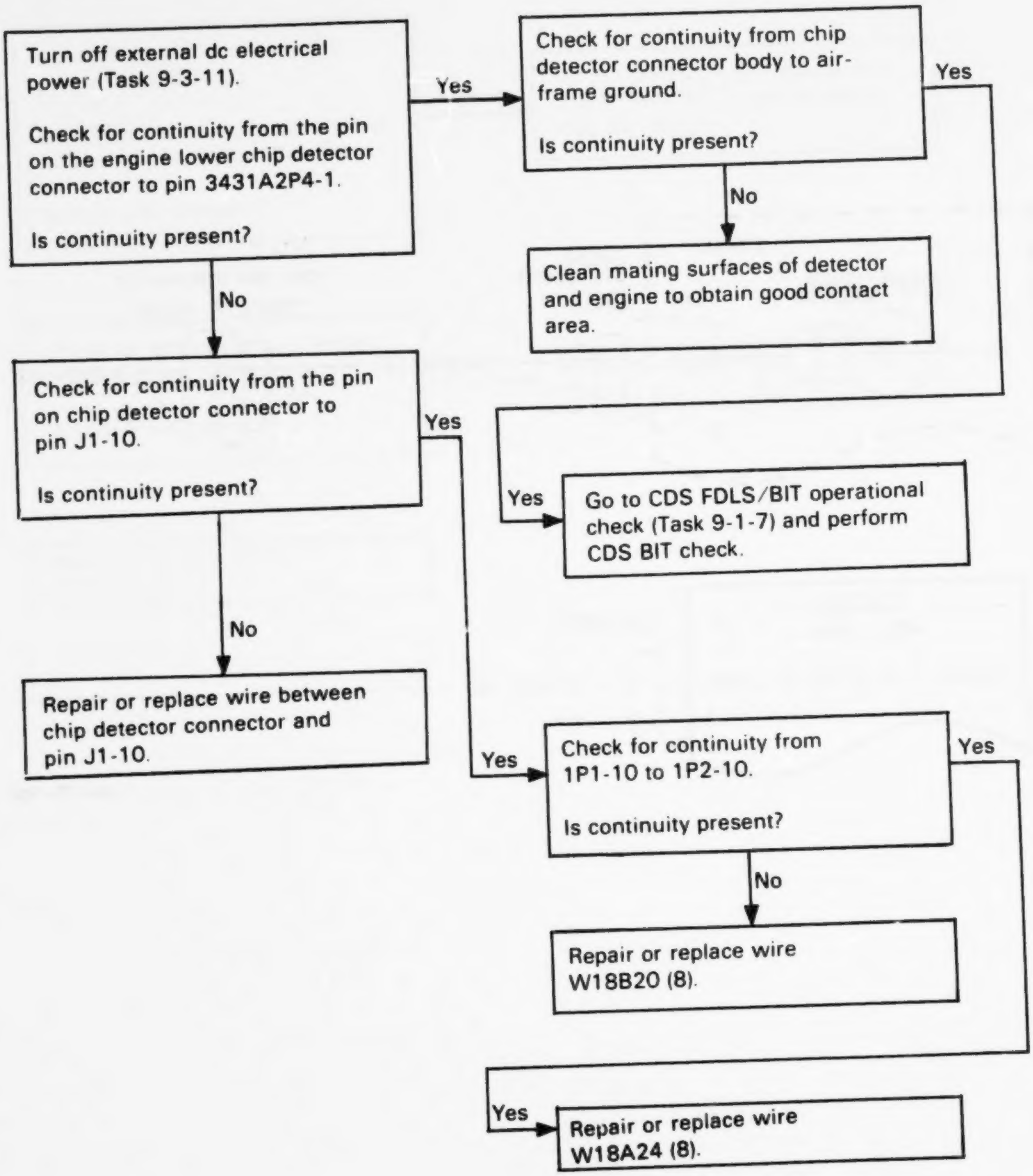

Turn off external dc electrical power (Task 9-3-11).
Check for continuity from the pin on the engine upper chip detector connector to 3431A1P4-1.
Is continuity present?
Yes
Check for continuity from chip detector connector body to air-frame ground.
Is continuity present?
Yes
No
Clean mating surfaces of detector and engine to obtain good contact area.
No
Check for continuity from the pin on chip detector connector to pin J1-11.
Is continuity present?
Yes
No
Repair or replace wire between chip detector connector and pin J1-11.
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.
Yes
Check for continuity from pin 1P1-11 to 1P2-11.
Is continuity present?
Yes
Repair or replace wire W17A24 (8).
No
Repair or replace wire W17B2C (8).

107. CAUTION MESSAGE CHIP ENG UPPER DOES NOT COME ON (ENGINE UPPER CHIP DETECTOR CONNECTOR CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON) (CONT)

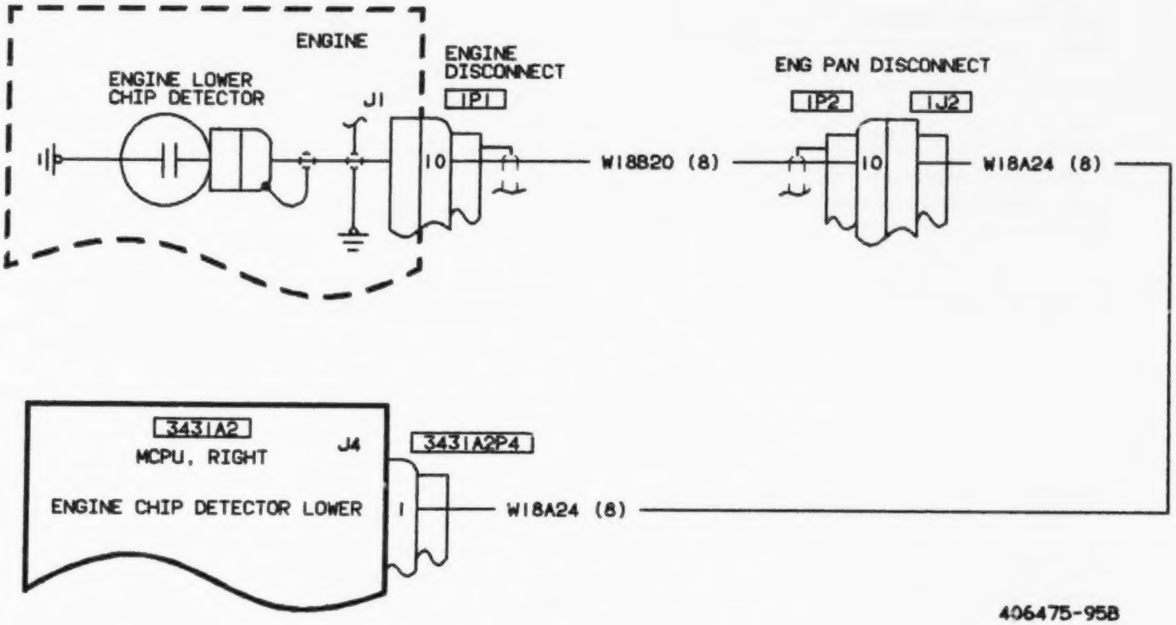

ENGINE
ENGINE UPPER CHIP DETECTOR
J1
ENGINE DISCONNECT
1P1
1
W17B20 (8)
ENG PAN DISCONNECT
1P2
1J2
1
W17A24 (8)
3431A1
MCPU, LEFT
J4
3431A1P4
ENGINE CHIP DETECTOR UPPER
1
W17A24 (8)

406475-968

108. CAUTION MESSAGE CHIP ENG LOWER DOES NOT COME ON (ENGINE LOWER CHIP DETECTOR CONNECTOR CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON)

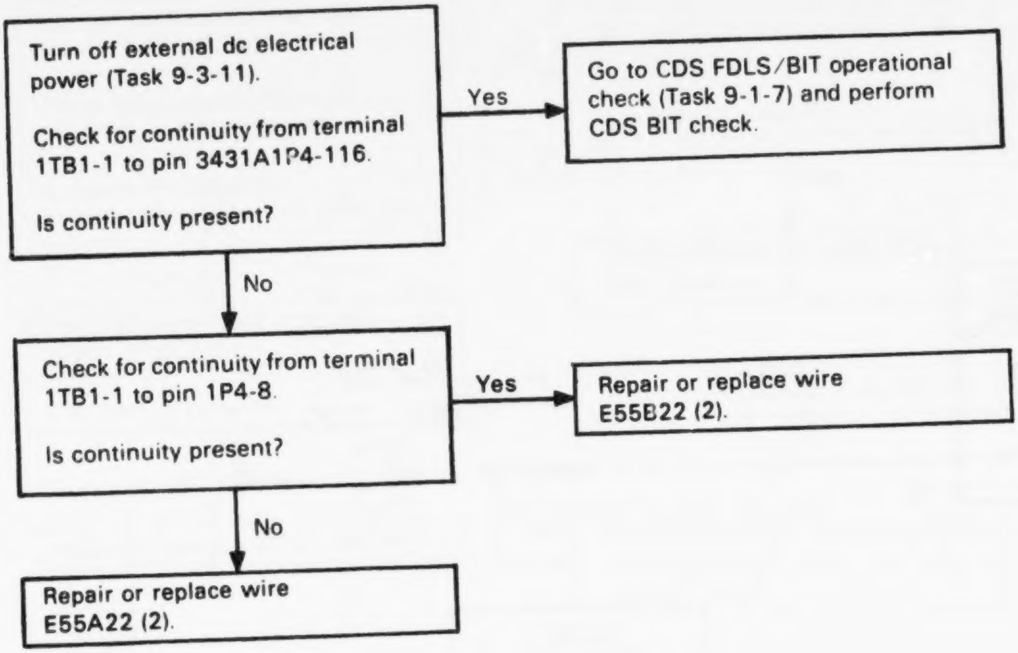

Turn off external dc electrical power (Task 9-3-11). Check for continuity from the pin on the engine lower chip detector connector to pin 3431A2P4-1. Is continuity present?
Yes
Check for continuity from chip detector connector body to airframe ground. Is continuity present?
Yes
No
Clean mating surfaces of detector and engine to obtain good contact area.
No
Check for continuity from the pin on chip detector connector to pin J1-10. Is continuity present?
Yes
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.
No
Repair or replace wire between chip detector connector and pin J1-10.
Yes
Check for continuity from 1P1-10 to 1P2-10. Is continuity present?
Yes
No
Repair or replace wire W18B20 (8).
Yes
Repair or replace wire W18A24 (8).

108. CAUTION MESSAGE CHIP ENG LOWER DOES NOT COME ON (ENGINE LOWER CHIP DETECTOR CONNECTOR CONNECTED TO SPECIAL TEST TOOL AND TEST SWITCH SET TO ON) (CONT)


ENGINE
ENGINE LOWER CHIP DETECTOR
J1
ENGINE DISCONNECT
1P1
10
W18B20 (8)
ENG PAN DISCONNECT
1P2
1J2
10
W18A24 (8)
3431A2
MCPU, RIGHT
J4
3431A2P4
ENGINE CHIP DETECTOR LOWER
1
W18A24 (8)

406475-958

109. CAUTION MESSAGE LOW OIL QUANTITY ENG DOES NOT COME ON WHEN TERMINAL 1TB1-1 IS GROUNDED



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from terminal 1TB1-1 to pin 3431A1P4-116.

Is continuity present?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

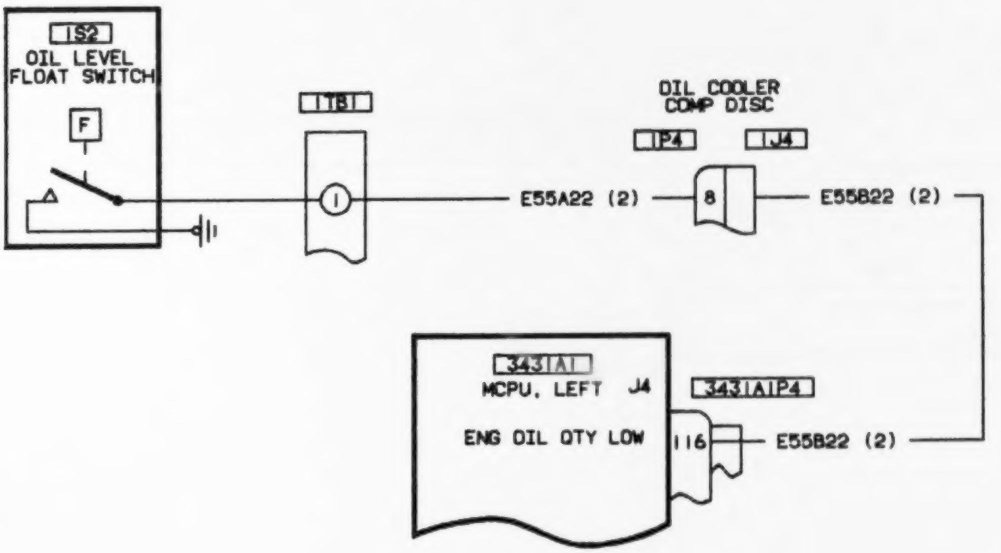
Check for continuity from terminal 1TB1-1 to pin 1P4-8.

Is continuity present?

Repair or replace wire E55B22 (2).

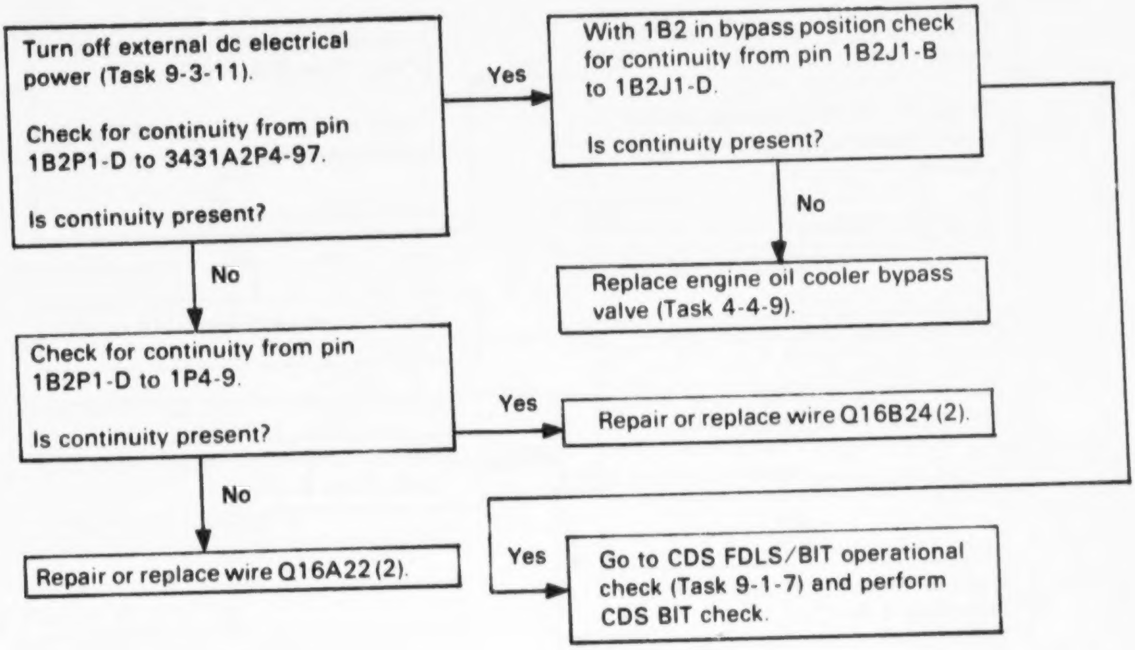
Repair or replace wire E55A22 (2).

109. CAUTION MESSAGE LOW OIL QUANTITY ENG DOES NOT COME ON WHEN TERMINAL 1TB1-1 IS GROUNDED (CONT)


1S2
OIL LEVEL FLOAT SWITCH
F
1TB1
1
E55A22 (2)
OIL COOLER COMP DISC
1P4
1J4
8
E55B22 (2)
343A1
MCPU, LEFT
J4
ENG OIL QTY LOW
343A1P4
116
E55B22 (2)

406475-94A

110. CAUTION MESSAGE OIL BYPASS ENG DOES NOT COME ON, (1TB1-1 JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1B2P1-D to 3431A2P4-97.

Is continuity present?

With 1B2 in bypass position check for continuity from pin 1B2J1-B to 1B2J1-D.

Is continuity present?

Replace engine oil cooler bypass valve (Task 4-4-9).

Check for continuity from pin 1B2P1-D to 1P4-9.

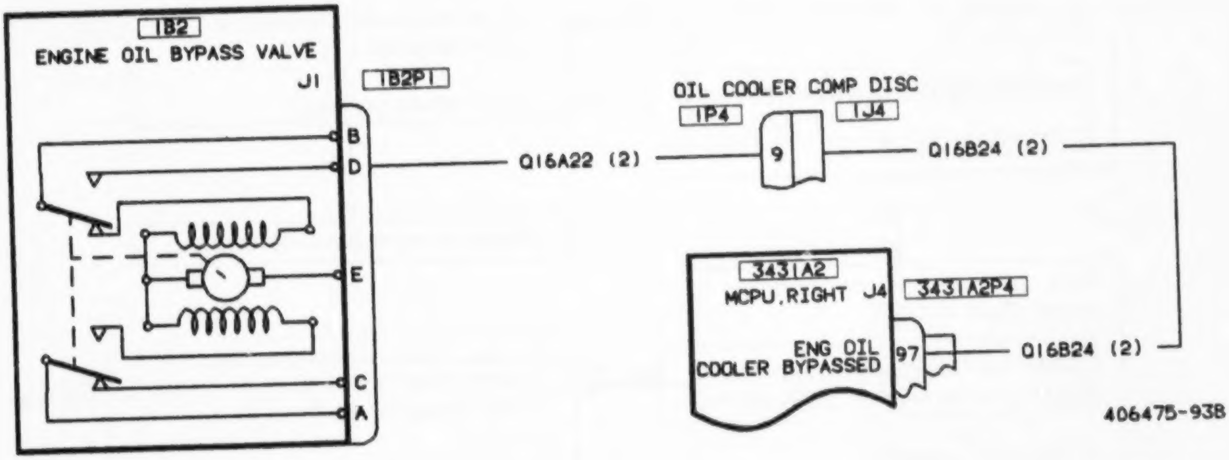
Is continuity present?

Repair or replace wire Q16B24 (2).

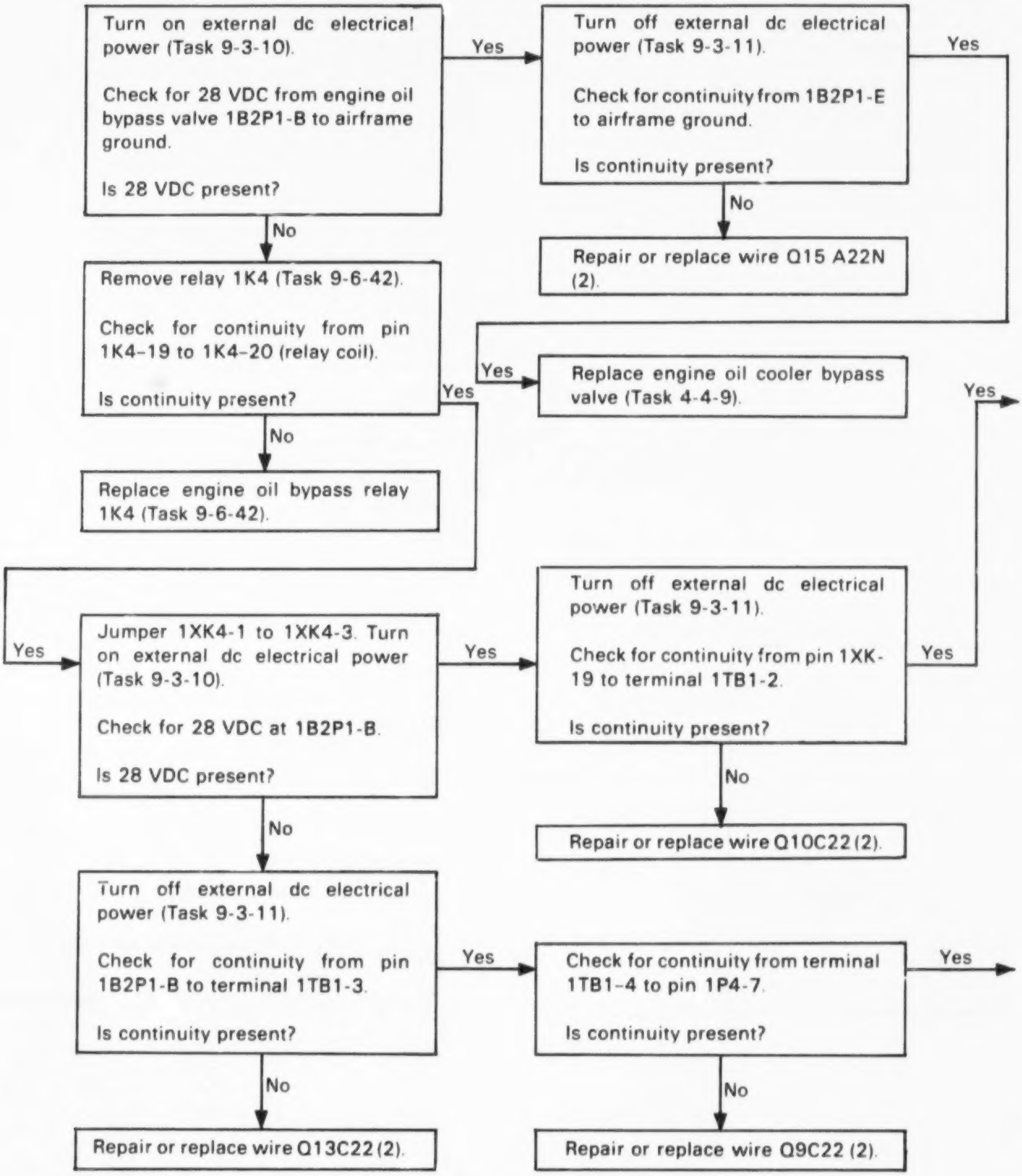
Repair or replace wire Q16A22 (2).

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Yes
No
No
Yes
No
Yes


1B2
ENGINE OIL BYPASS VALVE
J1
1B2P1
B
D
E
C
A
Q16A22 (2)
OIL COOLER COMP DISC
1P4
1J4
9
Q16B24 (2)
3431A2
MCPU, RIGHT
J4
3431A2P4
ENG OIL
COOLER BYPASSED
97
Q16B24 (2)
406475-938

111. ENGINE OIL BYPASS VALVE WILL NOT GO TO BYPASS POSITION (1TB1-1 TEMPORARILY JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO)



Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC from engine oil bypass valve 1B2P1-B to airframe ground.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 1B2P1-E to airframe ground.

Is continuity present?

Repair or replace wire Q15 A22N (2).

Remove relay 1K4 (Task 9-6-42).

Check for continuity from pin 1K4–19 to 1K4–20 (relay coil).

Is continuity present?

Replace engine oil cooler bypass valve (Task 4-4-9).

Replace engine oil bypass relay 1K4 (Task 9-6-42).

Jumper 1XK4-1 to 1XK4-3. Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at 1B2P1-B.

Is 28 VDC present?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1XK-19 to terminal 1TB1-2.

Is continuity present?

Repair or replace wire Q10C22 (2).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1B2P1-B to terminal 1TB1-3.

Is continuity present?

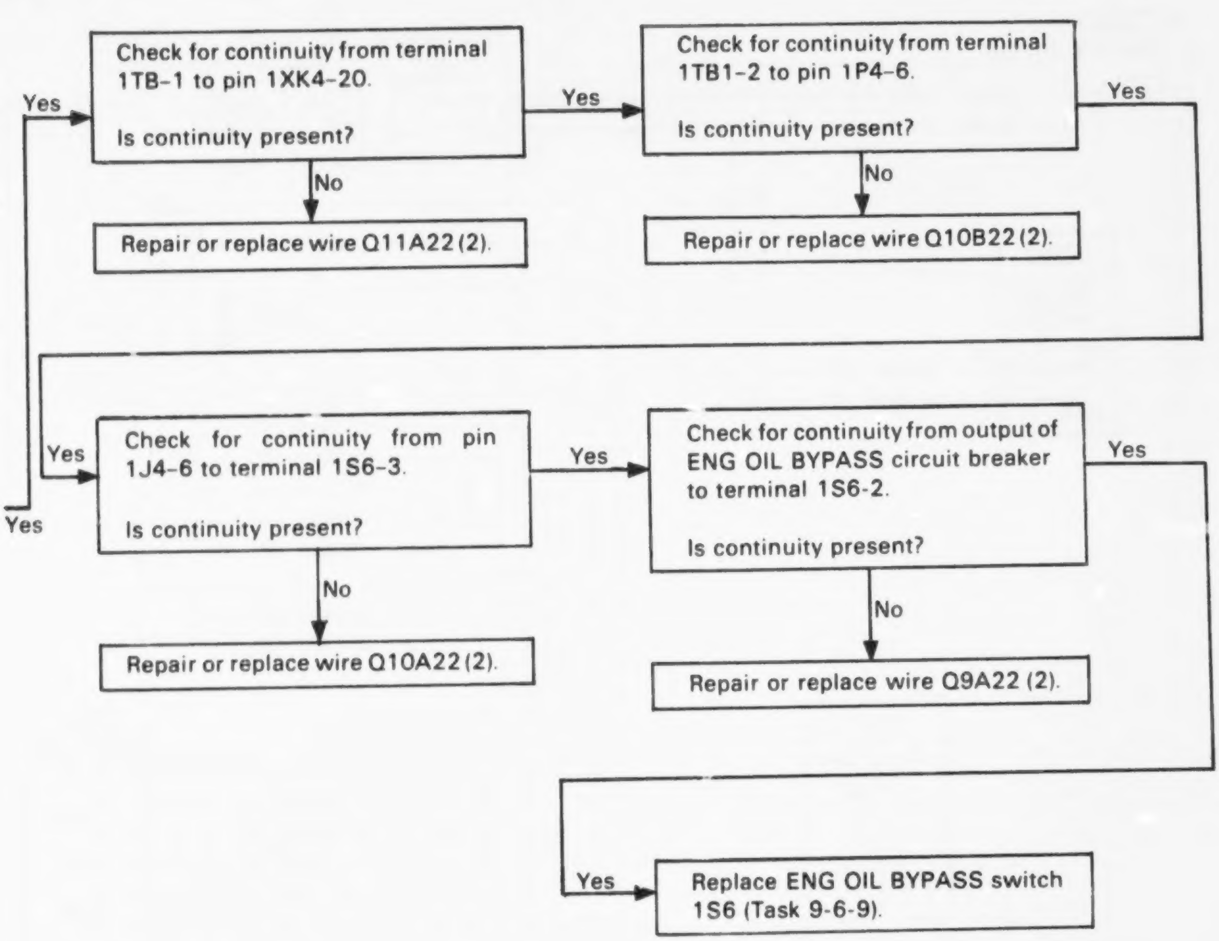
Check for continuity from terminal 1TB1-4 to pin 1P4-7.

Is continuity present?

Repair or replace wire Q13C22 (2).

Repair or replace wire Q9C22 (2).

111. ENGINE OIL BYPASS VALVE WILL NOT GO TO BYPASS POSITION (1TB1-1 TEMPORARILY JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO) (CONT)



Check for continuity from terminal 1TB-1 to pin 1XK4-20.

Is continuity present?

Repair or replace wire Q11A22 (2).

Check for continuity from terminal 1TB1-2 to pin 1P4-6.

Is continuity present?

Repair or replace wire Q10B22 (2).

Check for continuity from pin 1J4-6 to terminal 1S6-3.

Is continuity present?

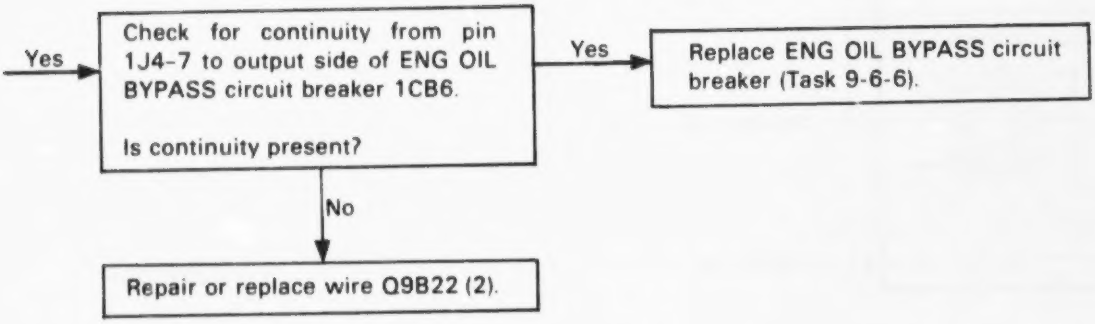
Repair or replace wire Q10A22 (2).

Check for continuity from output of ENG OIL BYPASS circuit breaker to terminal 1S6-2.

Is continuity present?

Repair or replace wire Q9A22 (2).

Replace ENG OIL BYPASS switch 1S6 (Task 9-6-9).



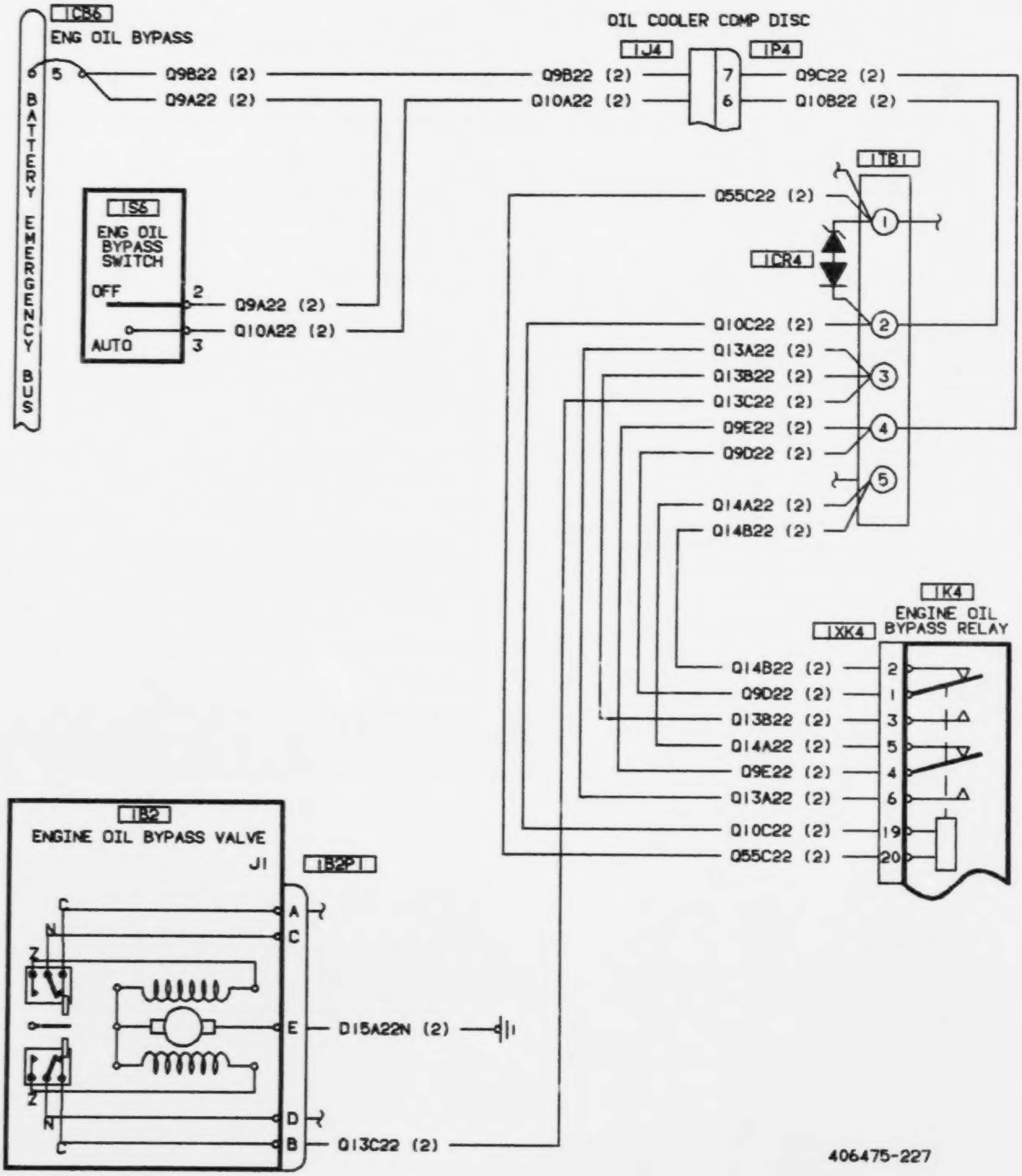
Check for continuity from pin 1J4-7 to output side of ENG OIL BYPASS circuit breaker 1CB6.

Is continuity present?

Replace ENG OIL BYPASS circuit breaker (Task 9-6-6).

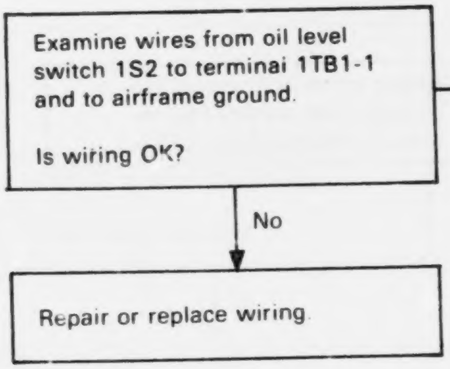
Repair or replace wire Q9B22 (2).

111. ENGINE OIL BYPASS VALVE WILL NOT GO TO BYPASS POSITION (1TB1-1 TEMPORARILY JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO) (CONT)


1CB6
ENG OIL BYPASS
5
BATTERY EMERGENCY BUS
Q9B22 (2)
Q9A22 (2)
OIL COOLER COMP DISC
1J4
1P4
Q9B22 (2)
Q10A22 (2)
7
6
Q9C22 (2)
Q10B22 (2)
1S6
ENG OIL BYPASS SWITCH
OFF
AUTO
2
3
Q9A22 (2)
Q10A22 (2)
1TB1
Q55C22 (2)
1
1CR4
Q10C22 (2)
2
Q13A22 (2)
Q13B22 (2)
Q13C22 (2)
3
Q9E22 (2)
Q9D22 (2)
4
5
Q14A22 (2)
Q14B22 (2)
1K4
ENGINE OIL BYPASS RELAY
1XK4
Q14B22 (2)
Q9D22 (2)
Q13B22 (2)
Q14A22 (2)
Q9E22 (2)
Q13A22 (2)
Q10C22 (2)
Q55C22 (2)
2
1
3
5
4
6
19
20
1B2
ENGINE OIL BYPASS VALVE
J1
1B2P1
C
N
Z
Z
N
C
A
C
E
D
B
D15A22N (2)
Q13C22 (2)

406475-227

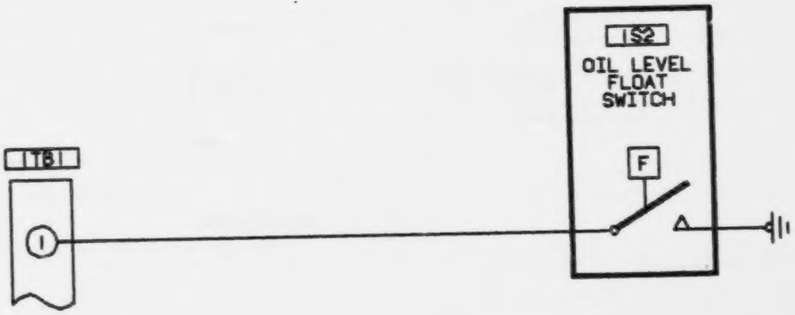
112. OIL LEVEL SWITCH DOES NOT CLOSE


Examine wires from oil level switch 1S2 to terminal 1TB1-1 and to airframe ground.

Is wiring OK?

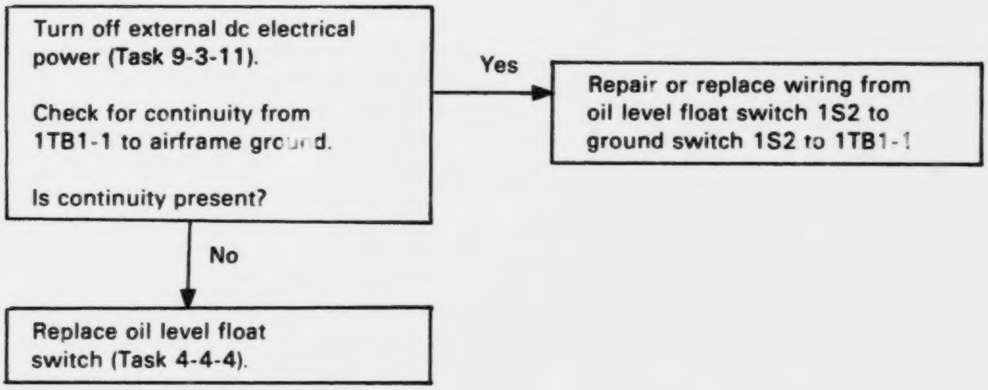
Replace oil level switch (Task 4-4-4).

Repair or replace wiring.


1TB1
1
1S2
OIL LEVEL FLOAT SWITCH
F

406475-205A

113. OIL LEVEL SWITCH DOES NOT OPEN



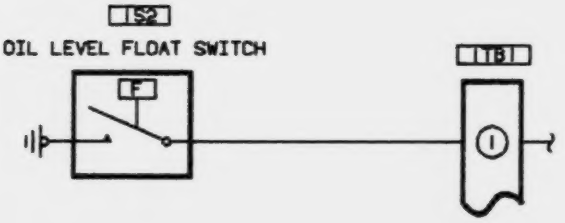
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 1TB1-1 to airframe ground.

Is continuity present?

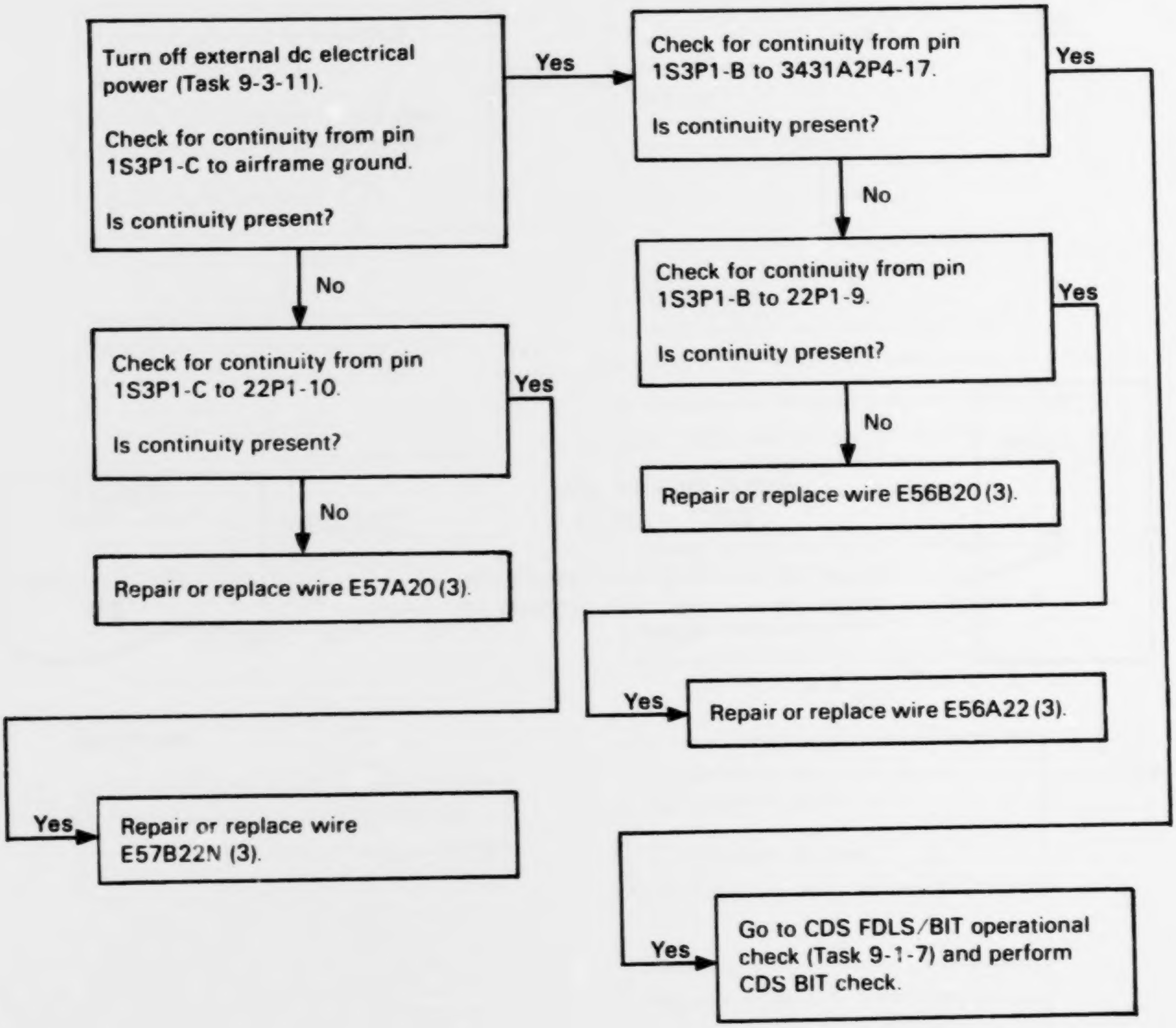
Repair or replace wiring from oil level float switch 1S2 to ground switch 1S2 to 1TB1-1

Replace oil level float switch (Task 4-4-4).

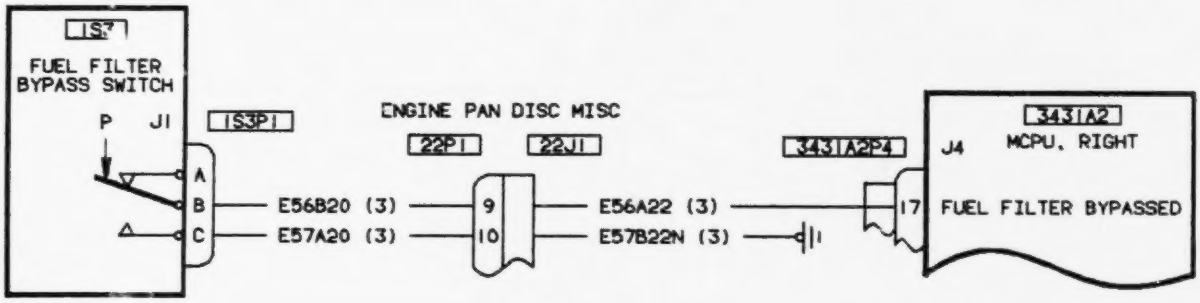

1S2
OIL LEVEL FLOAT SWITCH
F
1TB1
1

406475-226

114. CAUTION MESSAGE FUEL FILTER BYPASS DOES NOT COME ON (JUMPER BETWEEN PINS B AND C OF 1S3P1)

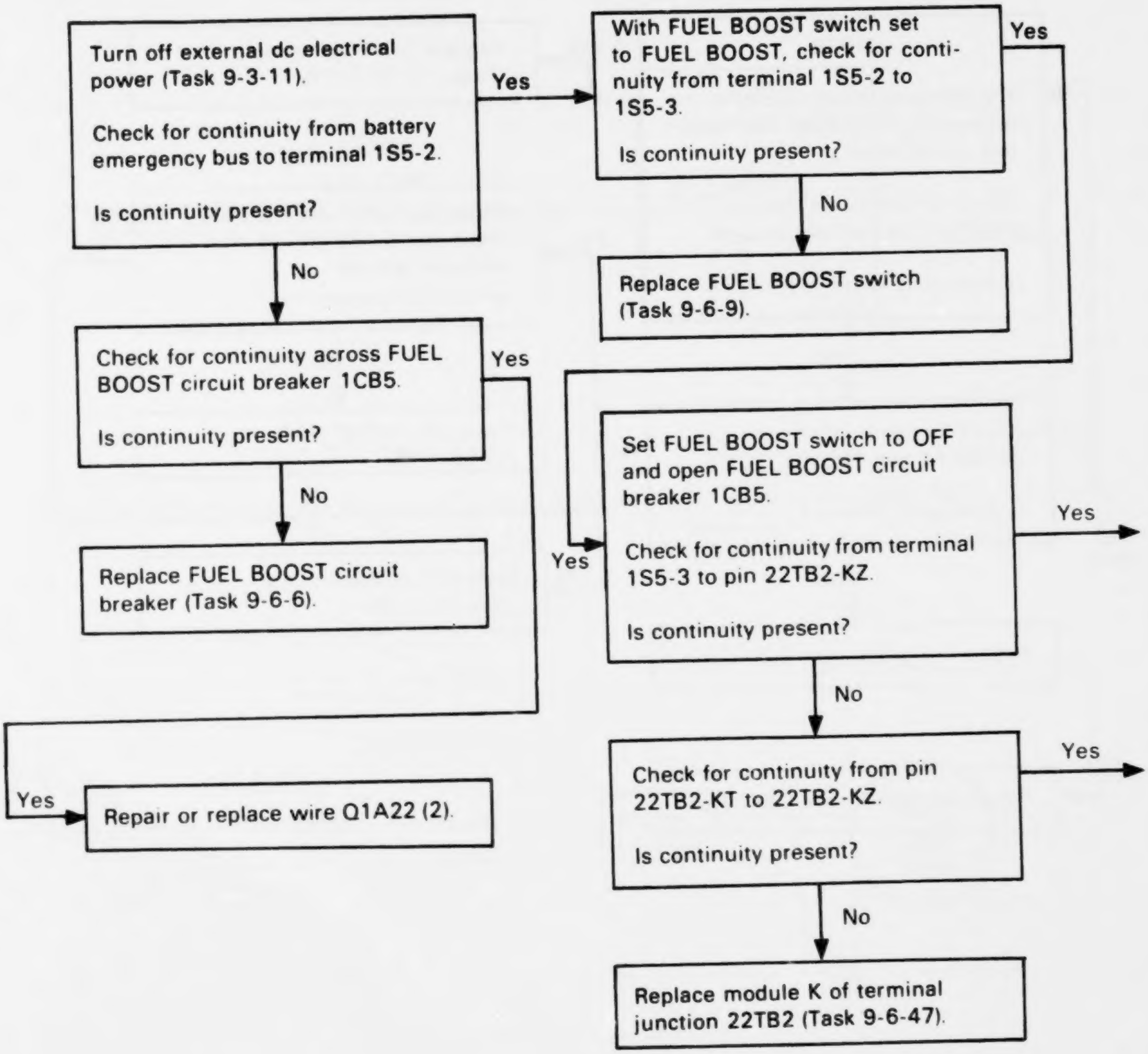

Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 1S3P1-C to airframe ground.
Is continuity present?
Yes
Check for continuity from pin 1S3P1-B to 3431A2P4-17.
Is continuity present?
Yes
No
No
Check for continuity from pin 1S3P1-B to 22P1-9.
Is continuity present?
Yes
Check for continuity from pin 1S3P1-C to 22P1-10.
Is continuity present?
Yes
No
No
Repair or replace wire E56B20 (3).
Repair or replace wire E57A20 (3).
Yes
Repair or replace wire E56A22 (3).
Yes
Repair or replace wire E57B22N (3).
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

114. CAUTION MESSAGE FUEL FILTER BYPASS DOES NOT COME ON (JUMPER BETWEEN PINS B AND C OF 1S3P1) (CONT)

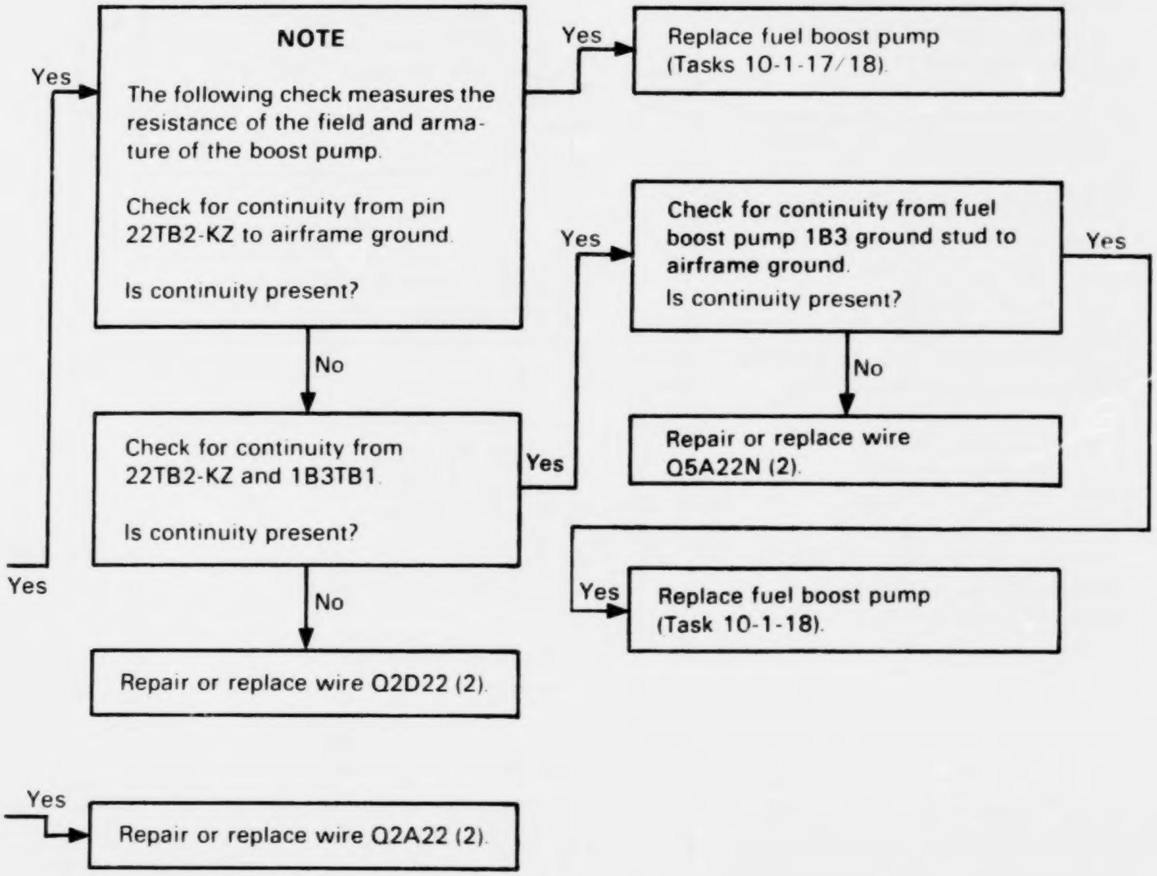

1S3
FUEL FILTER BYPASS SWITCH
P
J1
A
B
C
1S3P1
ENGINE PAN DISC MISC
22P1
22J1
9
10
E56B20 (3)
E57A20 (3)
E56A22 (3)
E57B22N (3)
3431A2P4
J4
3431A2
MCPU, RIGHT
17
FUEL FILTER BYPASSED

406475-104A

115. FUEL BOOST PUMP DOES NOT OPERATE (FUEL BOOST SWITCH SET TO FUEL BOOST)


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from battery emergency bus to terminal 1S5-2.
Is continuity present?
Yes
No
With FUEL BOOST switch set to FUEL BOOST, check for continuity from terminal 1S5-2 to 1S5-3.
Is continuity present?
Yes
No
Replace FUEL BOOST switch (Task 9-6-9).
Check for continuity across FUEL BOOST circuit breaker 1CB5.
Is continuity present?
Yes
No
Replace FUEL BOOST circuit breaker (Task 9-6-6).
Yes
Set FUEL BOOST switch to OFF and open FUEL BOOST circuit breaker 1CB5.
Check for continuity from terminal 1S5-3 to pin 22TB2-KZ.
Is continuity present?
Yes
No
Yes
Repair or replace wire Q1A22 (2).
Check for continuity from pin 22TB2-KT to 22TB2-KZ.
Is continuity present?
Yes
No
Replace module K of terminal junction 22TB2 (Task 9-6-47).

115. FUEL BOOST PUMP DOES NOT OPERATE (FUEL BOOST SWITCH SET TO FUEL BOOST)(CONT)



NOTE

The following check measures the resistance of the field and armature of the boost pump.

Check for continuity from pin 22TB2-KZ to airframe ground.

Is continuity present?

Replace fuel boost pump (Tasks 10-1-17/18).

Check for continuity from fuel boost pump 1B3 ground stud to airframe ground.

Is continuity present?

Check for continuity from 22TB2-KZ and 1B3TB1.

Is continuity present?

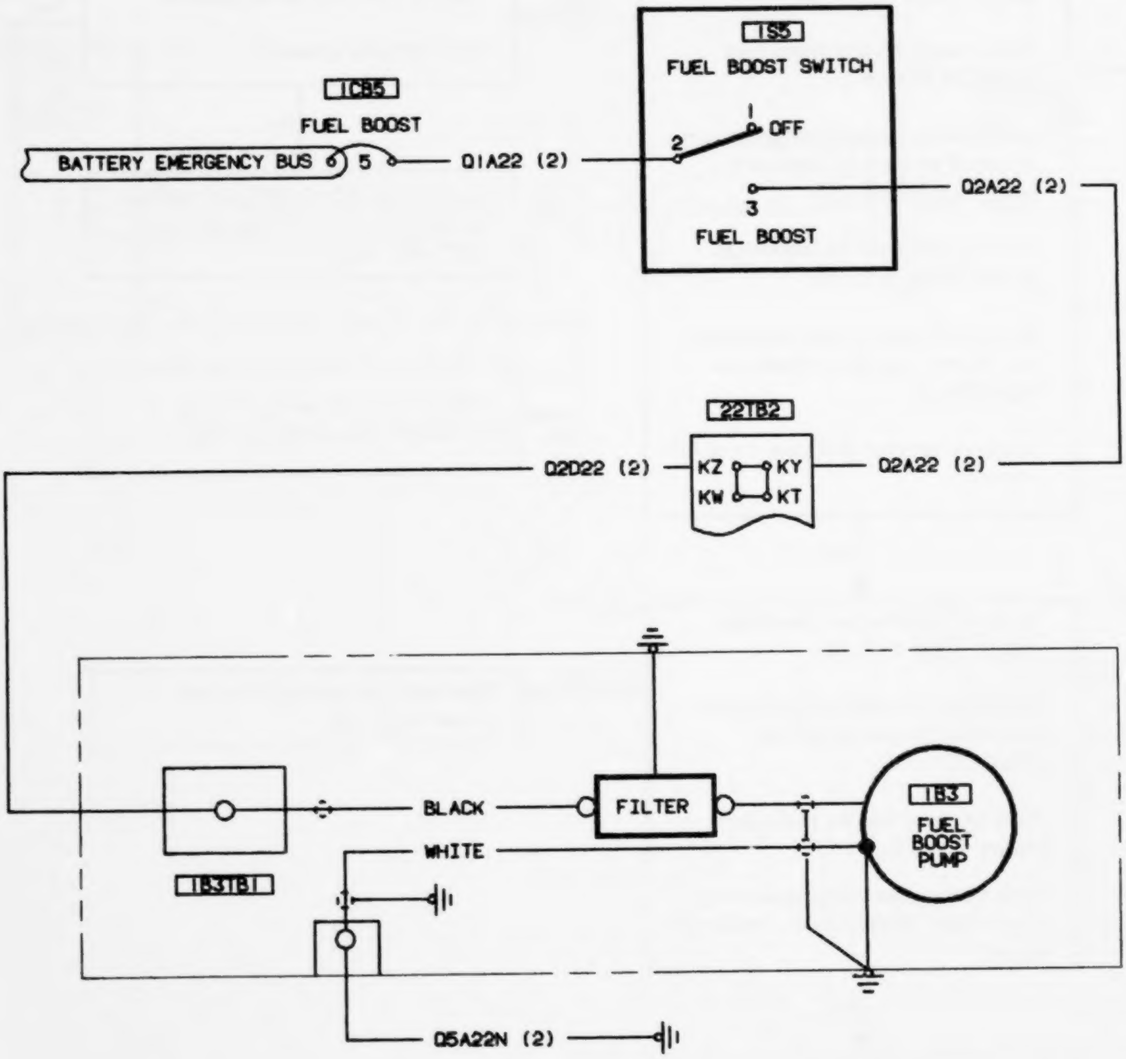
Repair or replace wire Q5A22N (2).

Replace fuel boost pump (Task 10-1-18).

Repair or replace wire Q2D22 (2).

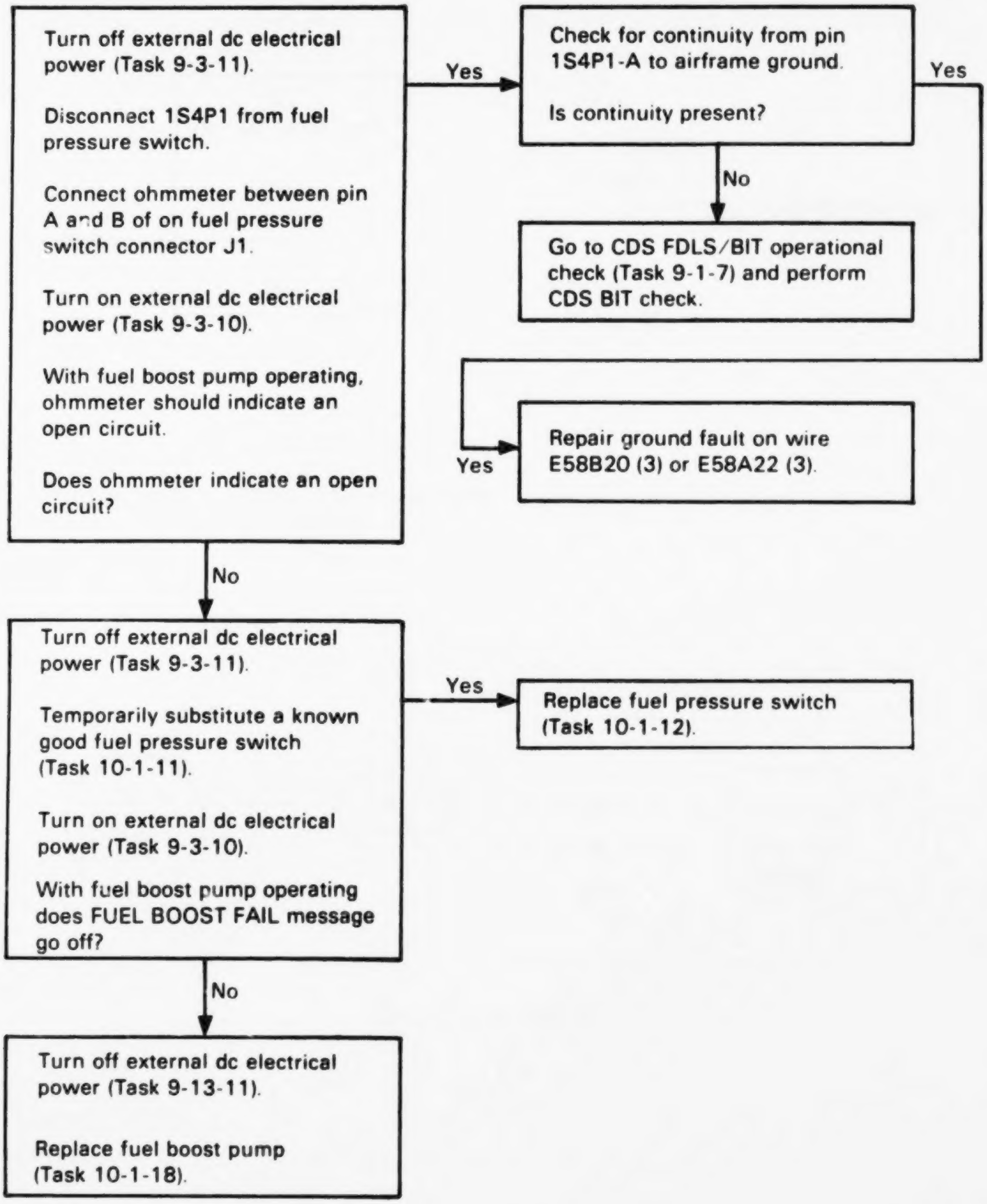
Repair or replace wire Q2A22 (2).

115. FUEL BOOST PUMP DOES NOT OPERATE (FUEL BOOST SWITCH SET TO FUEL BOOST) (CONT)


1S5
FUEL BOOST SWITCH
1
OFF
2
3
FUEL BOOST
1CB5
FUEL BOOST
BATTERY EMERGENCY BUS
5
Q1A22 (2)
Q2A22 (2)
22TB2
KZ
KY
KW
KT
Q2D22 (2)
Q2A22 (2)
BLACK
FILTER
WHITE
1B3
FUEL BOOST PUMP
1B3TB1
Q5A22N (2)

406475-108A

116. CAUTION MESSAGE FUEL BOOST FAIL COMES ON (FUEL BOOST PUMP ON AND OPERATING)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 1S4P1 from fuel pressure switch.

Connect ohmmeter between pin A and B of on fuel pressure switch connector J1.

Turn on external dc electrical power (Task 9-3-10).

With fuel boost pump operating, ohmmeter should indicate an open circuit.

Does ohmmeter indicate an open circuit?

Check for continuity from pin 1S4P1-A to airframe ground.

Is continuity present?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Repair ground fault on wire E58B20 (3) or E58A22 (3).

Turn off external dc electrical power (Task 9-3-11).

Temporarily substitute a known good fuel pressure switch (Task 10-1-11).

Turn on external dc electrical power (Task 9-3-10).

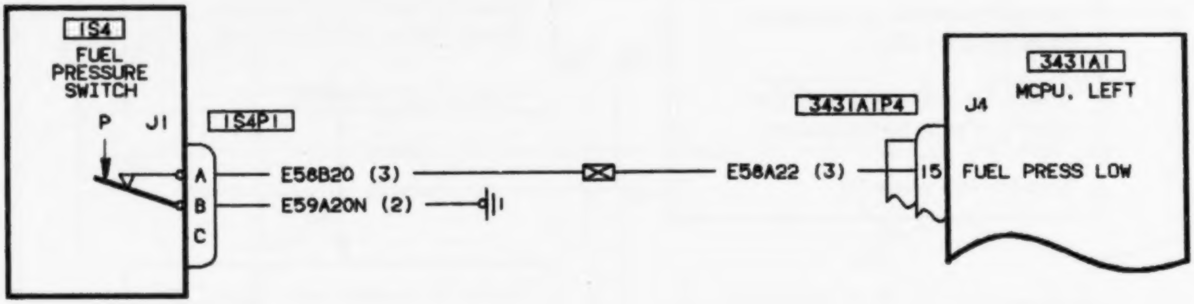
With fuel boost pump operating does FUEL BOOST FAIL message go off?

Replace fuel pressure switch (Task 10-1-12).

Turn off external dc electrical power (Task 9-13-11).

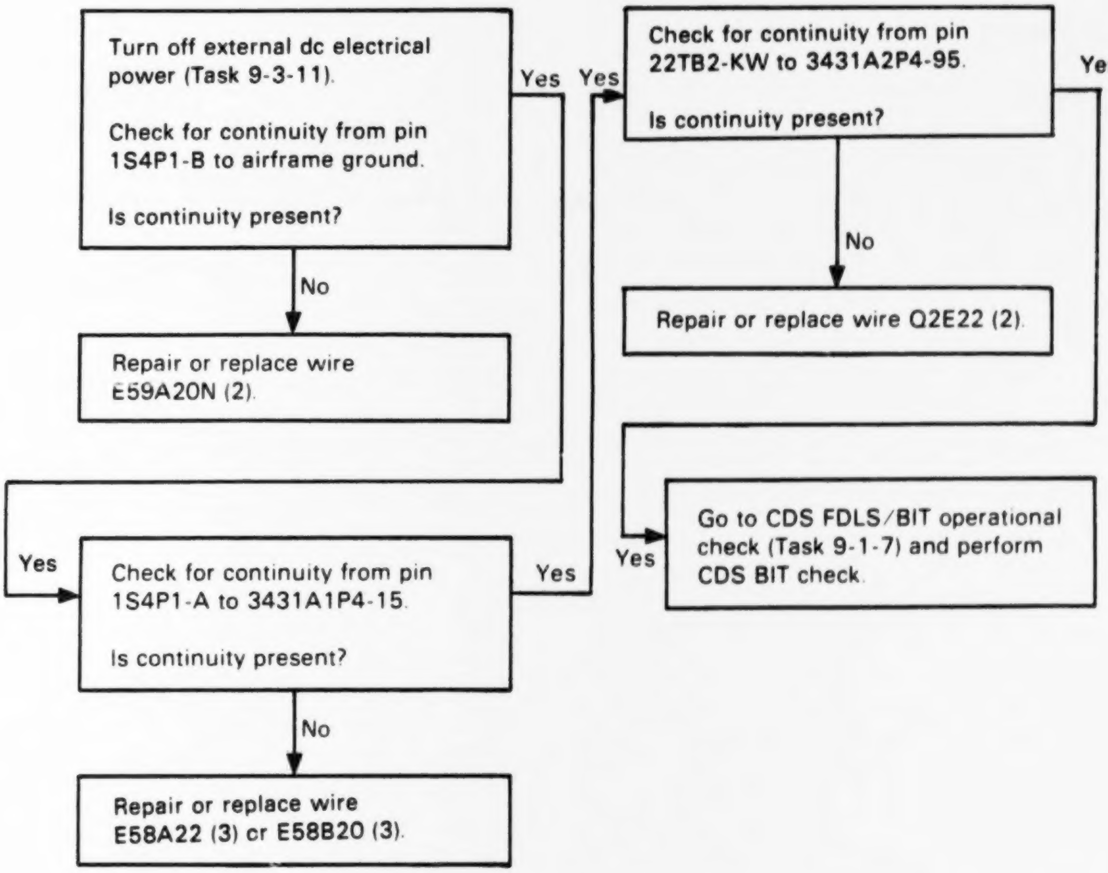
Replace fuel boost pump (Task 10-1-18).

116. CAUTION MESSAGE FUEL BOOST FAIL COMES ON (FUEL BOOST PUMP ON AND OPERATING) (CONT)

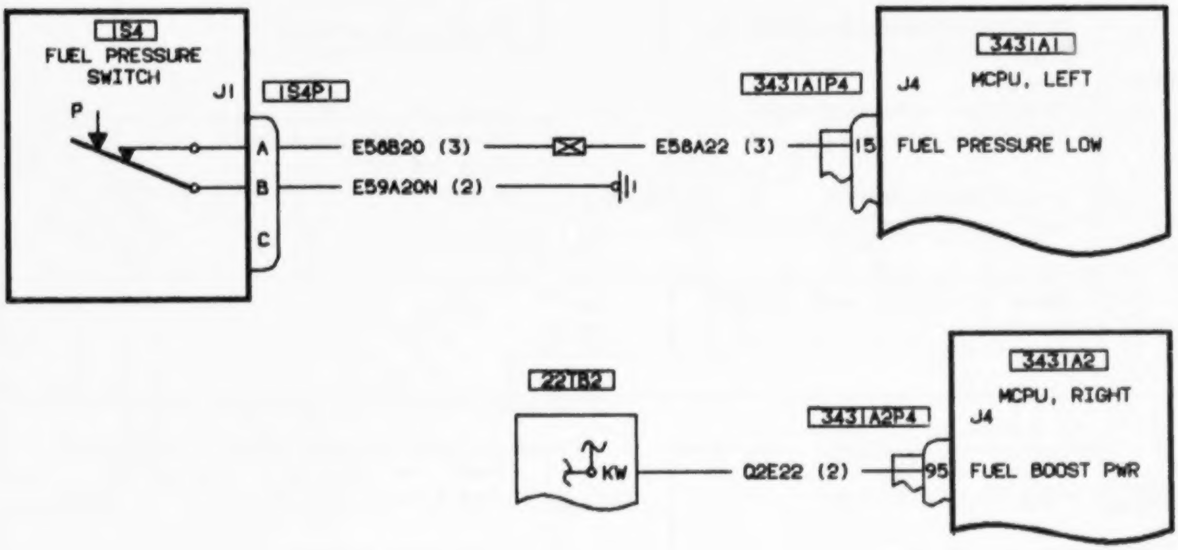

1S4
FUEL PRESSURE SWITCH
P
J1
1S4P1
A
B
C
E58B20 (3)
E59A20N (2)
E58A22 (3)
3431A1P4
3431A1
MCPU, LEFT
J4
15
FUEL PRESS LOW

406475-105A

117. CAUTION MESSAGE FUEL BOOST FAIL DOES NOT COME ON (JUMPER WIRE CONNECTED BETWEEN 1S4P1-A AND 1S4P1-B AND FUEL BOOST SWITCH ON)

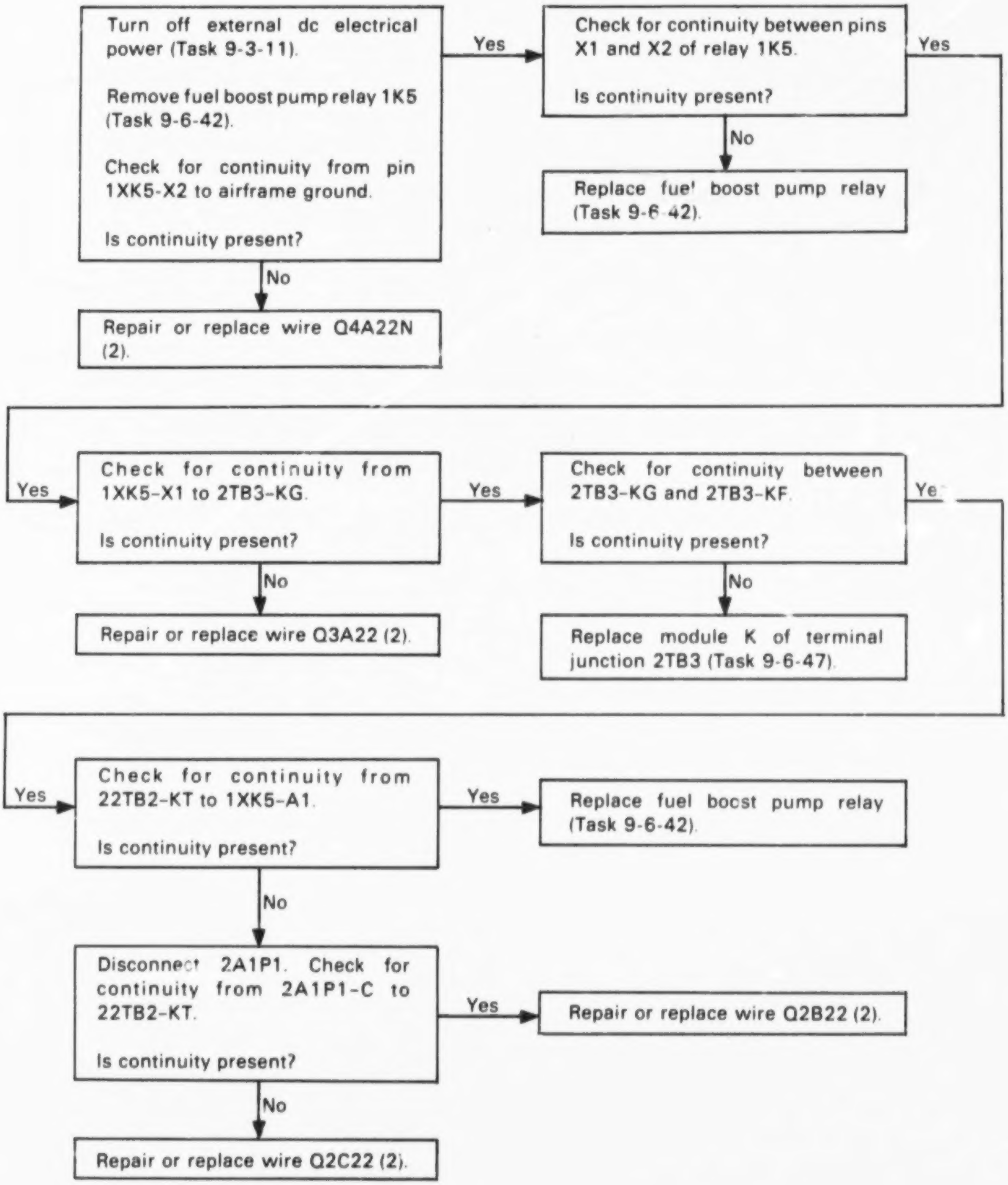

Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 1S4P1-B to airframe ground.
Is continuity present?
No
Repair or replace wire E59A20N (2).
Yes
Yes
Check for continuity from pin 1S4P1-A to 3431A1P4-15.
Is continuity present?
No
Repair or replace wire E58A22 (3) or E58B20 (3).
Yes
Yes
Check for continuity from pin 22TB2-KW to 3431A2P4-95.
Is continuity present?
No
Repair or replace wire Q2E22 (2).
Yes
Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

117. CAUTION MESSAGE FUEL BOOST FAIL DOES NOT COME ON (JUMPER WIRE CONNECTED BETWEEN 1S4P1-A AND 1S4P1-B AND FUEL BOOST SWITCH ON) (CONT)


1S4
FUEL PRESSURE SWITCH
P
J1
1S4P1
A
B
C
E58B20 (3)
E58A22 (3)
E59A20N (2)
3431A1
3431A1P4
J4
MCPU, LEFT
15
FUEL PRESSURE LOW
22TB2
KW
Q2E22 (2)
3431A2
3431A2P4
J4
MCPU, RIGHT
95
FUEL BOOST PWR

406475-204A

118. FUEL BOOST PUMP DOES NOT OPERATE WHEN START SWITCH AND KEYLOCK SWITCH ARE ON (FUEL BOOST SWITCH IS IN OFF POSITION)



Turn off external dc electrical power (Task 9-3-11).

Remove fuel boost pump relay 1K5 (Task 9-6-42).

Check for continuity from pin 1XK5-X2 to airframe ground.

Is continuity present?

Repair or replace wire Q4A22N (2).

Check for continuity between pins X1 and X2 of relay 1K5.

Is continuity present?

Replace fuel boost pump relay (Task 9-6-42).

Check for continuity from 1XK5-X1 to 2TB3-KG.

Is continuity present?

Repair or replace wire Q3A22 (2).

Check for continuity between 2TB3-KG and 2TB3-KF.

Is continuity present?

Replace module K of terminal junction 2TB3 (Task 9-6-47).

Check for continuity from 22TB2-KT to 1XK5-A1.

Is continuity present?

Replace fuel boost pump relay (Task 9-6-42).

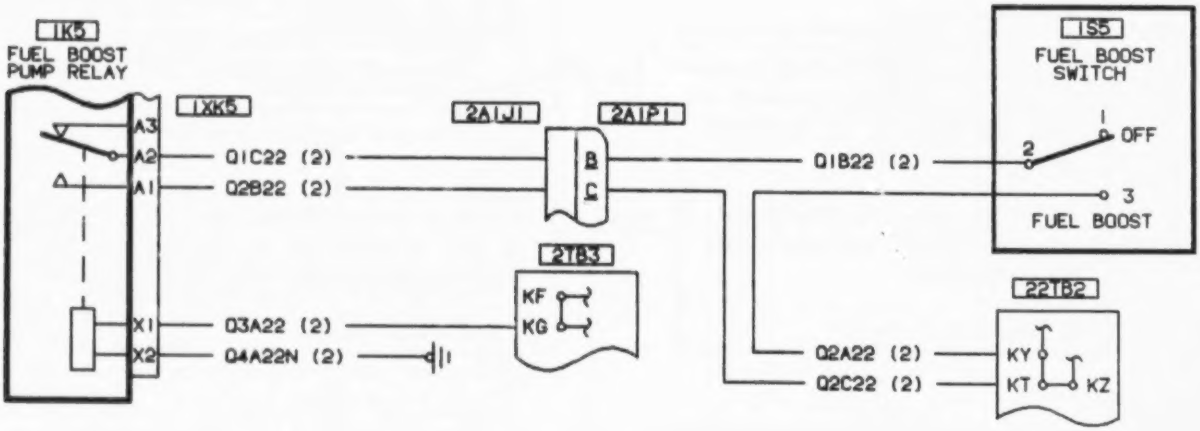
Disconnect 2A1P1. Check for continuity from 2A1P1-C to 22TB2-KT.

Is continuity present?

Repair or replace wire Q2B22 (2).

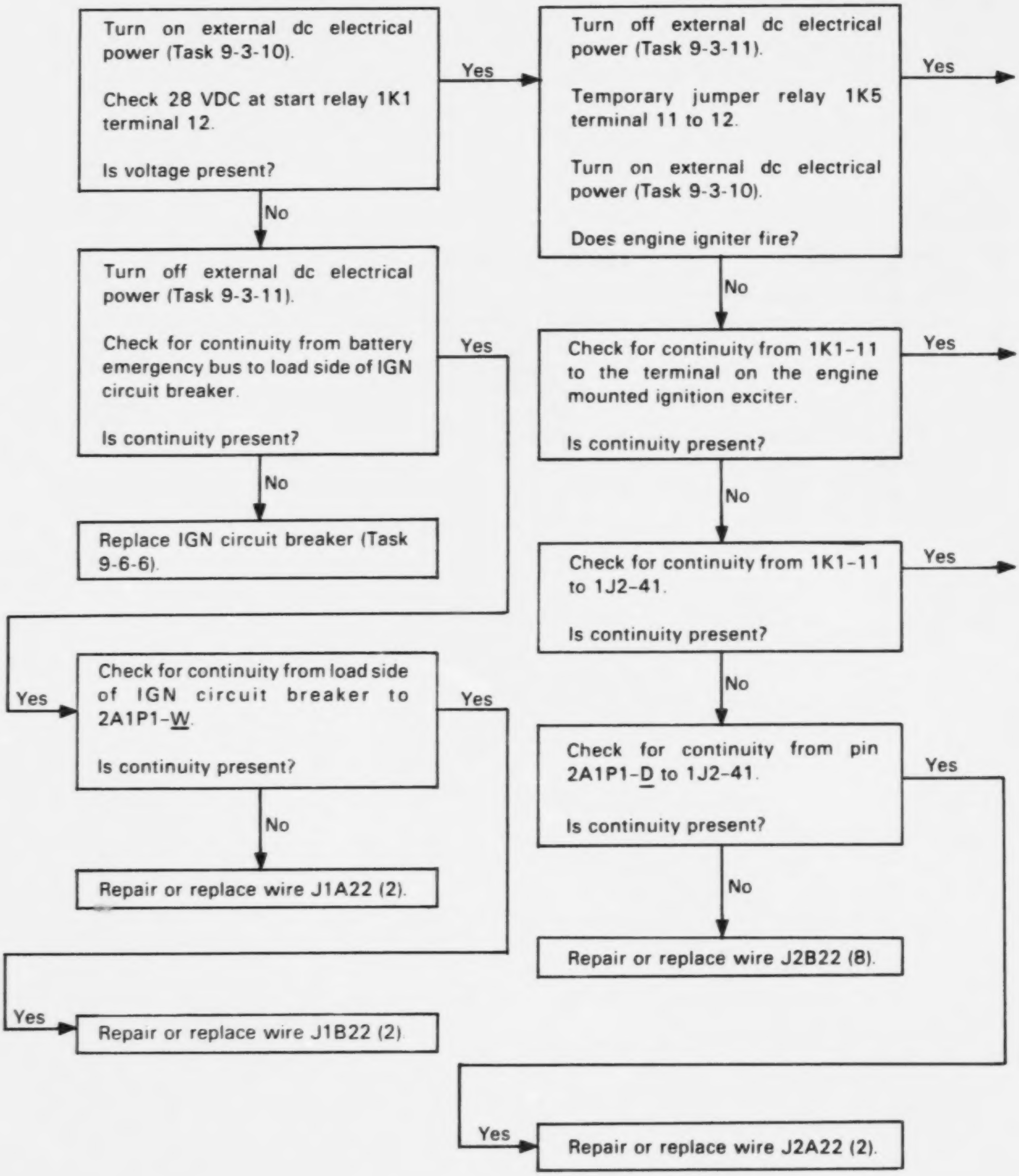
Repair or replace wire Q2C22 (2).

118. FUEL BOOST PUMP DOES NOT OPERATE WHEN START SWITCH AND KEYLOCK SWITCH ARE ON (FUEL BOOST SWITCH IS IN OFF POSITION) (CONT)

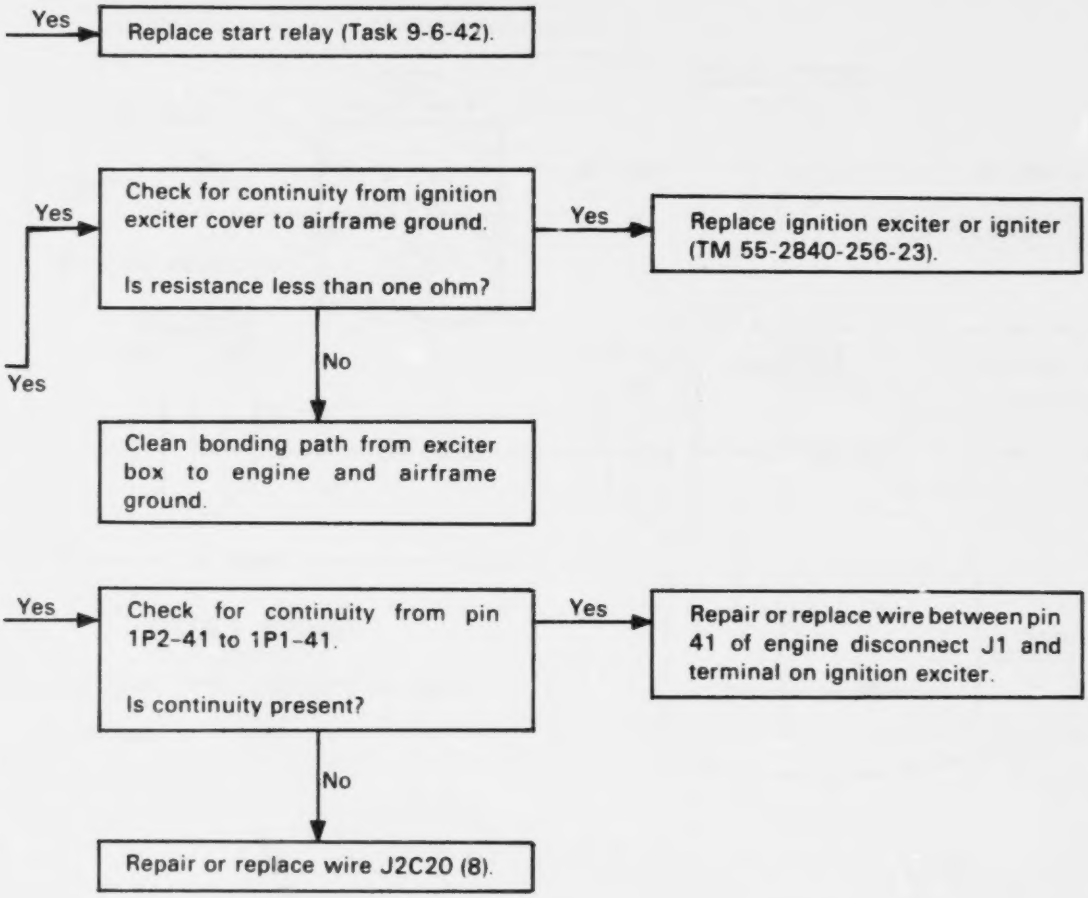

1K5
FUEL BOOST PUMP RELAY
1XK5
A3
A2
A1
X1
X2
Q1C22 (2)
Q2B22 (2)
Q3A22 (2)
Q4A22N (2)
2A1J1
2A1P1
B
C
2TB3
KF
KG
1S5
FUEL BOOST SWITCH
1
OFF
2
3
FUEL BOOST
Q1B22 (2)
22TB2
KY
KT
KZ
Q2A22 (2)
Q2C22 (2)

406475-107B

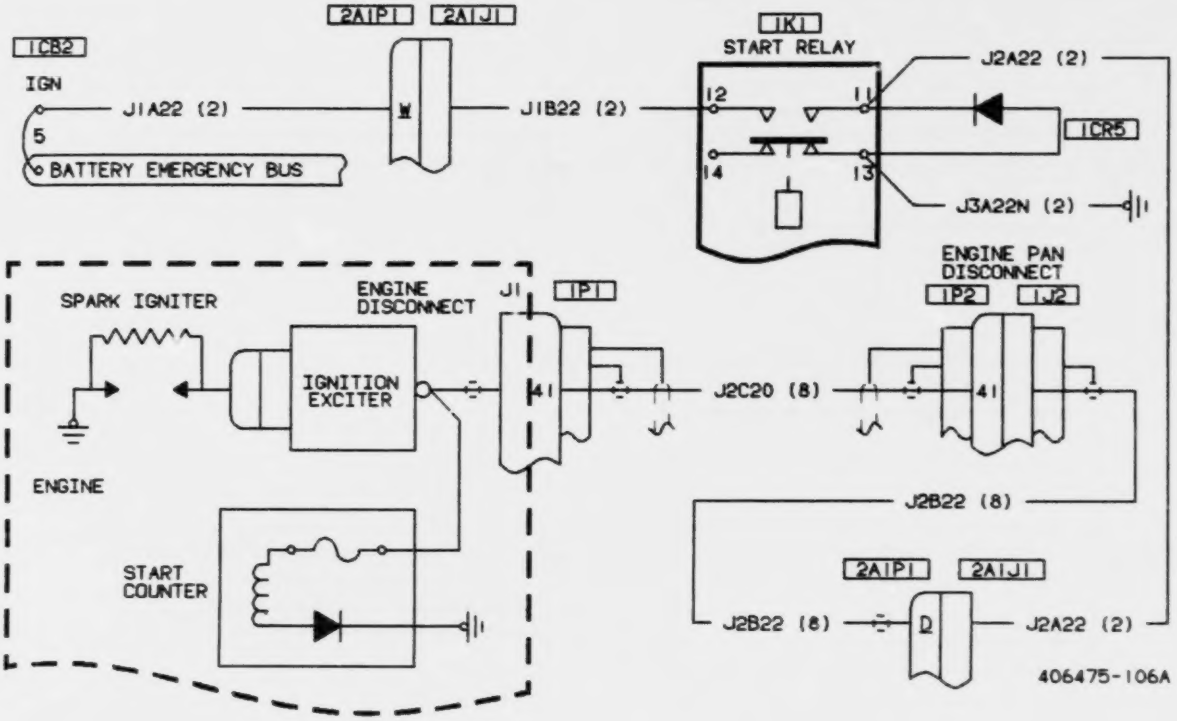
119. ENGINE IGNITER DOES NOT FIRE


Turn on external dc electrical power (Task 9-3-10).
Check 28 VDC at start relay 1K1 terminal 12.
Is voltage present?
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Temporary jumper relay 1K5 terminal 11 to 12.
Turn on external dc electrical power (Task 9-3-10).
Does engine igniter fire?
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from battery emergency bus to load side of IGN circuit breaker.
Is continuity present?
Yes
No
Replace IGN circuit breaker (Task 9-6-6).
Check for continuity from 1K1-11 to the terminal on the engine mounted ignition exciter.
Is continuity present?
Yes
No
Check for continuity from 1K1-11 to 1J2-41.
Is continuity present?
Yes
No
Yes
Check for continuity from load side of IGN circuit breaker to 2A1P1-W.
Is continuity present?
Yes
No
Repair or replace wire J1A22 (2).
Check for continuity from pin 2A1P1-D to 1J2-41.
Is continuity present?
Yes
No
Repair or replace wire J2B22 (8).
Yes
Repair or replace wire J1B22 (2).
Yes
Repair or replace wire J2A22 (2).

119. ENGINE IGNITER DOES NOT FIRE (CONT)


Yes
Replace start relay (Task 9-6-42).
Yes
Check for continuity from ignition exciter cover to airframe ground.
Is resistance less than one ohm?
Yes
Replace ignition exciter or igniter (TM 55-2840-256-23).
Yes
No
Clean bonding path from exciter box to engine and airframe ground.
Yes
Check for continuity from pin 1P2-41 to 1P1-41.
Is continuity present?
Yes
Repair or replace wire between pin 41 of engine disconnect J1 and terminal on ignition exciter.
No
Repair or replace wire J2C20 (8).

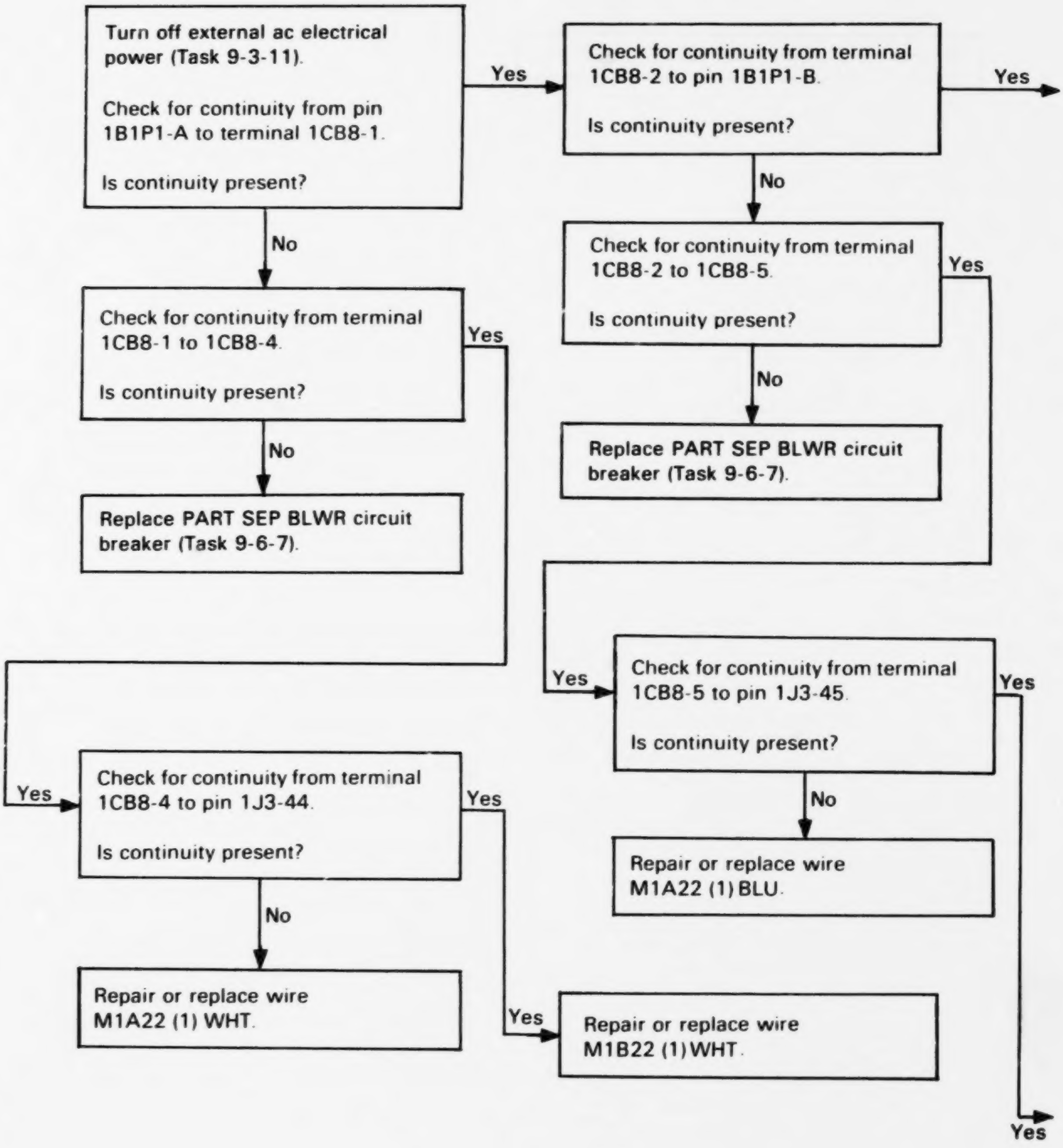
119. ENGINE IGNITER DOES NOT FIRE (CONT)


2A1P1
2A1J1
1CB2
IGN
J1A22 (2)
5
BATTERY EMERGENCY BUS
W
J1B22 (2)
1K1
START RELAY
12
11
14
13
J2A22 (2)
1CR5
J3A22N (2)
SPARK IGNITER
ENGINE DISCONNECT
J1
1P1
IGNITION EXCITER
41
J2C20 (8)
ENGINE PAN DISCONNECT
1P2
1J2
41
ENGINE
J2B22 (8)
START COUNTER
2A1P1
2A1J1
J2B22 (8)
D
J2A22 (2)
406475-106A

120. START COUNTER DOES NOT INCREASE COUNT (START SWITCH IS ON, IGN AND START CIRCUIT BREAKERS CLOSED

Replace start counter (TM 55-2840-256-23).

121. PARTICLE SEPARATOR BLOWER DOES NOT OPERATE (AC EXTERNAL POWER IS ON)



Turn off external ac electrical power (Task 9-3-11).

Check for continuity from pin 1B1P1-A to terminal 1CB8-1.

Is continuity present?

Check for continuity from terminal 1CB8-1 to 1CB8-4.

Is continuity present?

Replace PART SEP BLWR circuit breaker (Task 9-6-7).

Check for continuity from terminal 1CB8-4 to pin 1J3-44.

Is continuity present?

Repair or replace wire M1A22 (1) WHT.

Check for continuity from terminal 1CB8-2 to pin 1B1P1-B.

Is continuity present?

Check for continuity from terminal 1CB8-2 to 1CB8-5.

Is continuity present?

Replace PART SEP BLWR circuit breaker (Task 9-6-7).

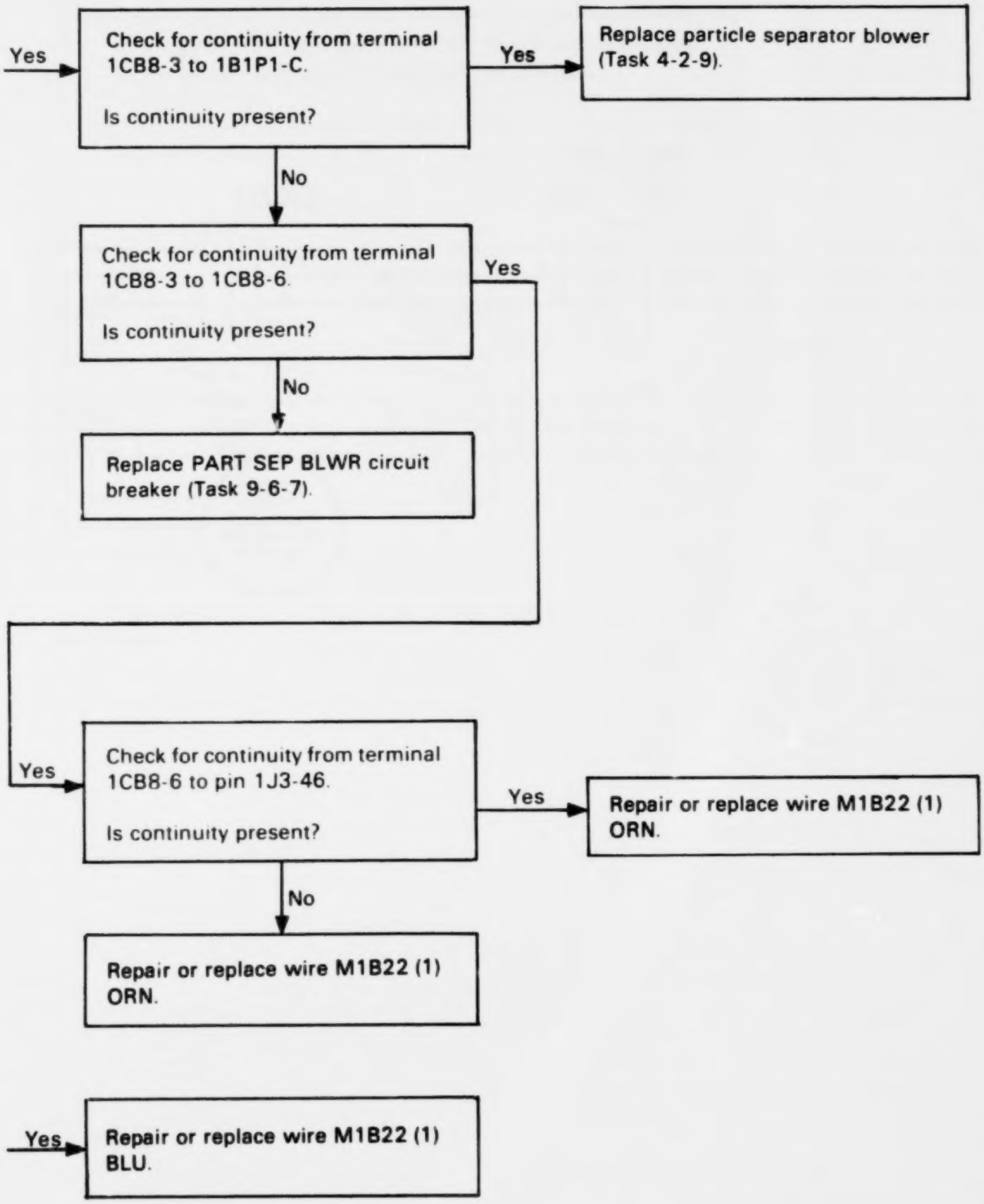
Check for continuity from terminal 1CB8-5 to pin 1J3-45.

Is continuity present?

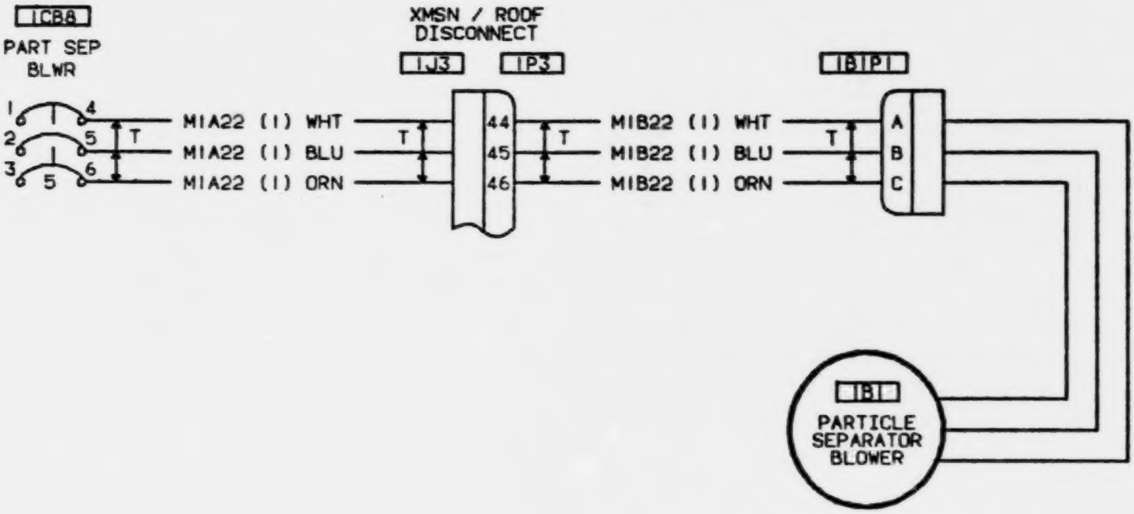
Repair or replace wire M1A22 (1) BLU.

Repair or replace wire M1B22 (1) WHT.

121. PAF LE SEPARATOR BLOWER DOES NOT OPERATE (AC EXTERNAL POWER IS ON) (CONT)


Yes
Check for continuity from terminal 1CB8-3 to 1B1P1-C.
Is continuity present?
Yes
Replace particle separator blower (Task 4-2-9).
No
Check for continuity from terminal 1CB8-3 to 1CB8-6.
Is continuity present?
Yes
No
Replace PART SEP BLWR circuit breaker (Task 9-6-7).
Yes
Check for continuity from terminal 1CB8-6 to pin 1J3-46.
Is continuity present?
Yes
Repair or replace wire M1B22 (1) ORN.
No
Repair or replace wire M1B22 (1) ORN.
Yes
Repair or replace wire M1B22 (1) BLU.

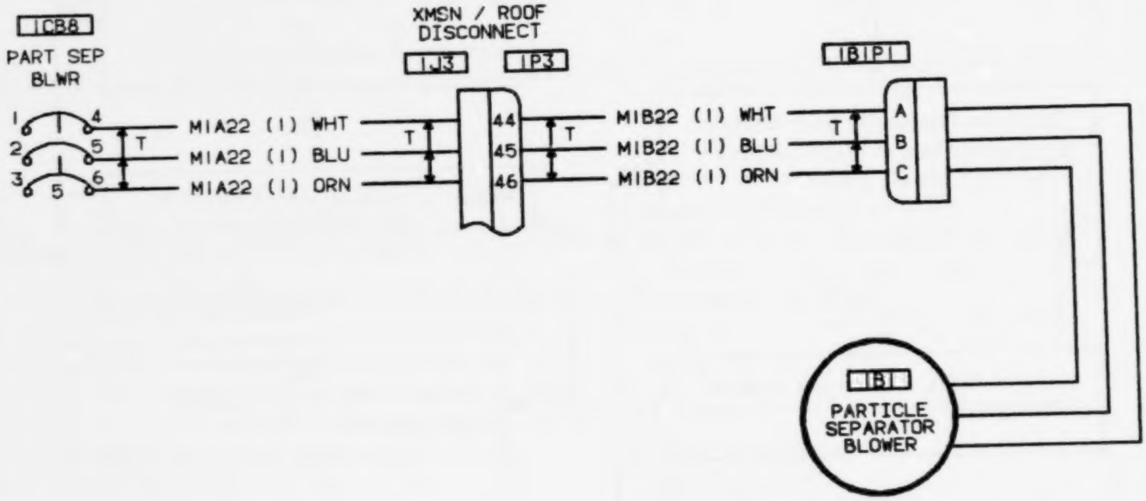
121. PARTICLE SEPARATOR BLOWER DOES NOT OPERATE (AC EXTERNAL POWER IS ON) (CONT)


1CB8
PART SEP
BLWR
1
2
3
4
5
6
5
T
M1A22 (1) WHT
M1A22 (1) BLU
M1A22 (1) ORN
XMSN / ROOF
DISCONNECT
1J3
1P3
T
44
45
46
T
M1B22 (1) WHT
M1B22 (1) BLU
M1B22 (1) ORN
1B1P1
T
A
B
C
1B1
PARTICLE
SEPARATOR
BLOWER

406475-109

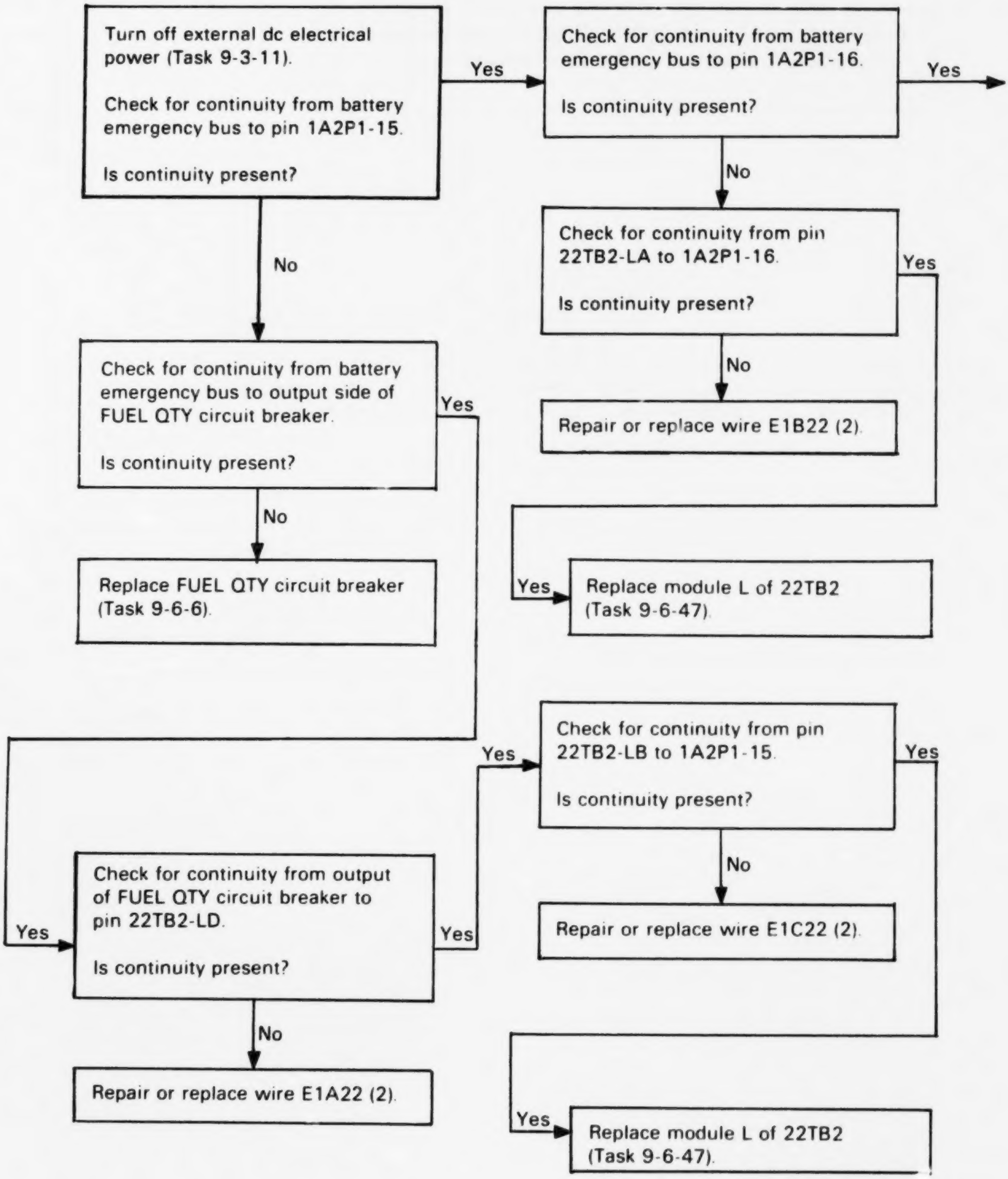
122. PARTICLE SEPARATOR BLOWER OPERATES BACKWARD

Check each wire from the PART SEP BLWR circuit breaker to the blower connector. Two wires are reversed.


1CB8
PART SEP
BLWR
1
2
3
4
5
6
5
T
M1A22 (1) WHT
M1A22 (1) BLU
M1A22 (1) ORN
XMSN / ROOF
DISCONNECT
1J3
1P3
T
44
45
46
T
M1B22 (1) WHT
M1B22 (1) BLU
M1B22 (1) ORN
1B1P1
T
A
B
C
1B1
PARTICLE
SEPARATOR
BLOWER

406475-109

123. FUEL QUANTITY INDICATOR NOT CORRECT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery emergency bus to pin 1A2P1-15.

Is continuity present?

Check for continuity from battery emergency bus to pin 1A2P1-16.

Is continuity present?

Check for continuity from pin 22TB2-LA to 1A2P1-16.

Is continuity present?

Repair or replace wire E1B22 (2).

Check for continuity from battery emergency bus to output side of FUEL QTY circuit breaker.

Is continuity present?

Replace FUEL QTY circuit breaker (Task 9-6-6).

Replace module L of 22TB2 (Task 9-6-47).

Check for continuity from pin 22TB2-LB to 1A2P1-15.

Is continuity present?

Check for continuity from output of FUEL QTY circuit breaker to pin 22TB2-LD.

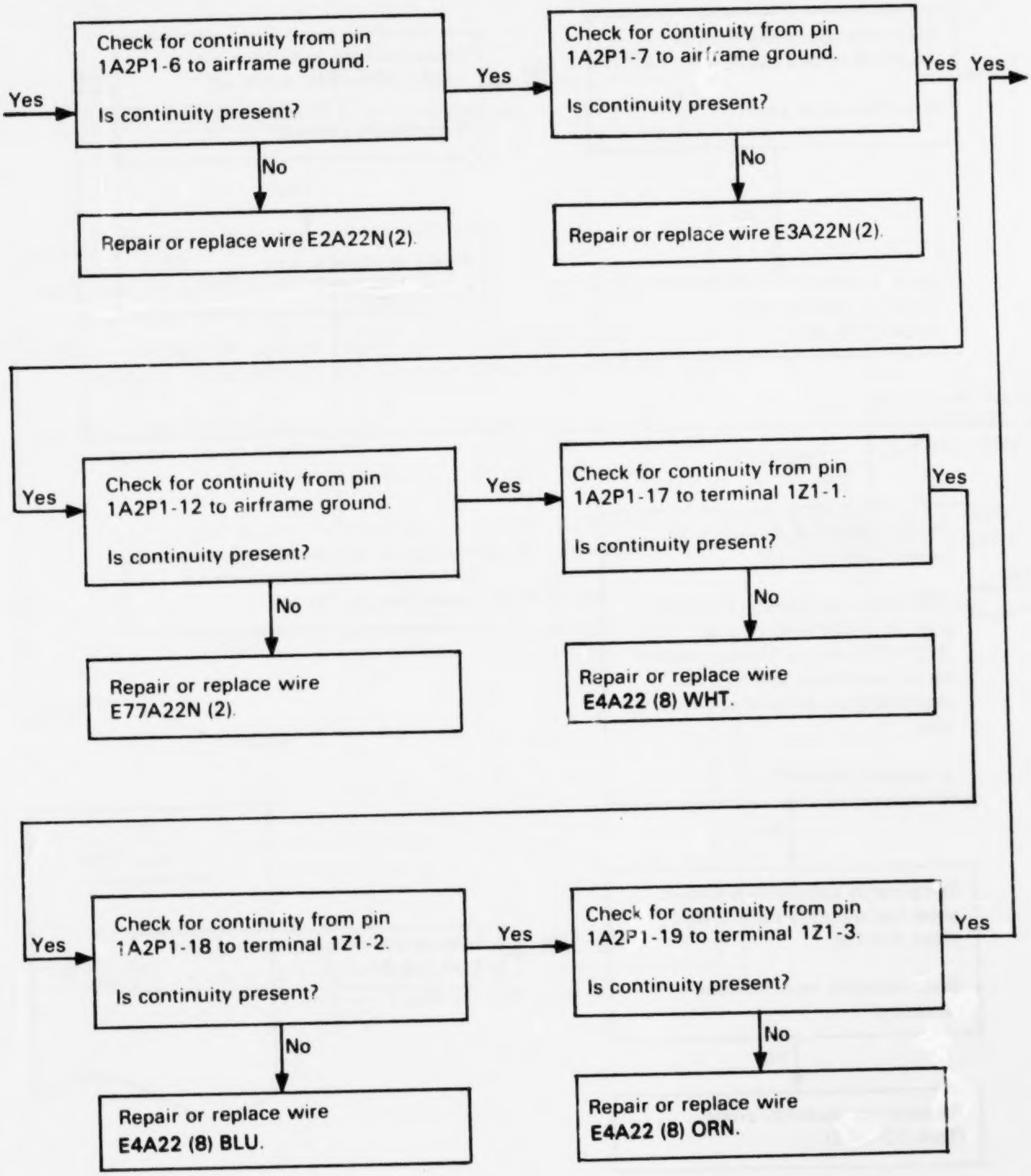
Is continuity present?

Repair or replace wire E1C22 (2).

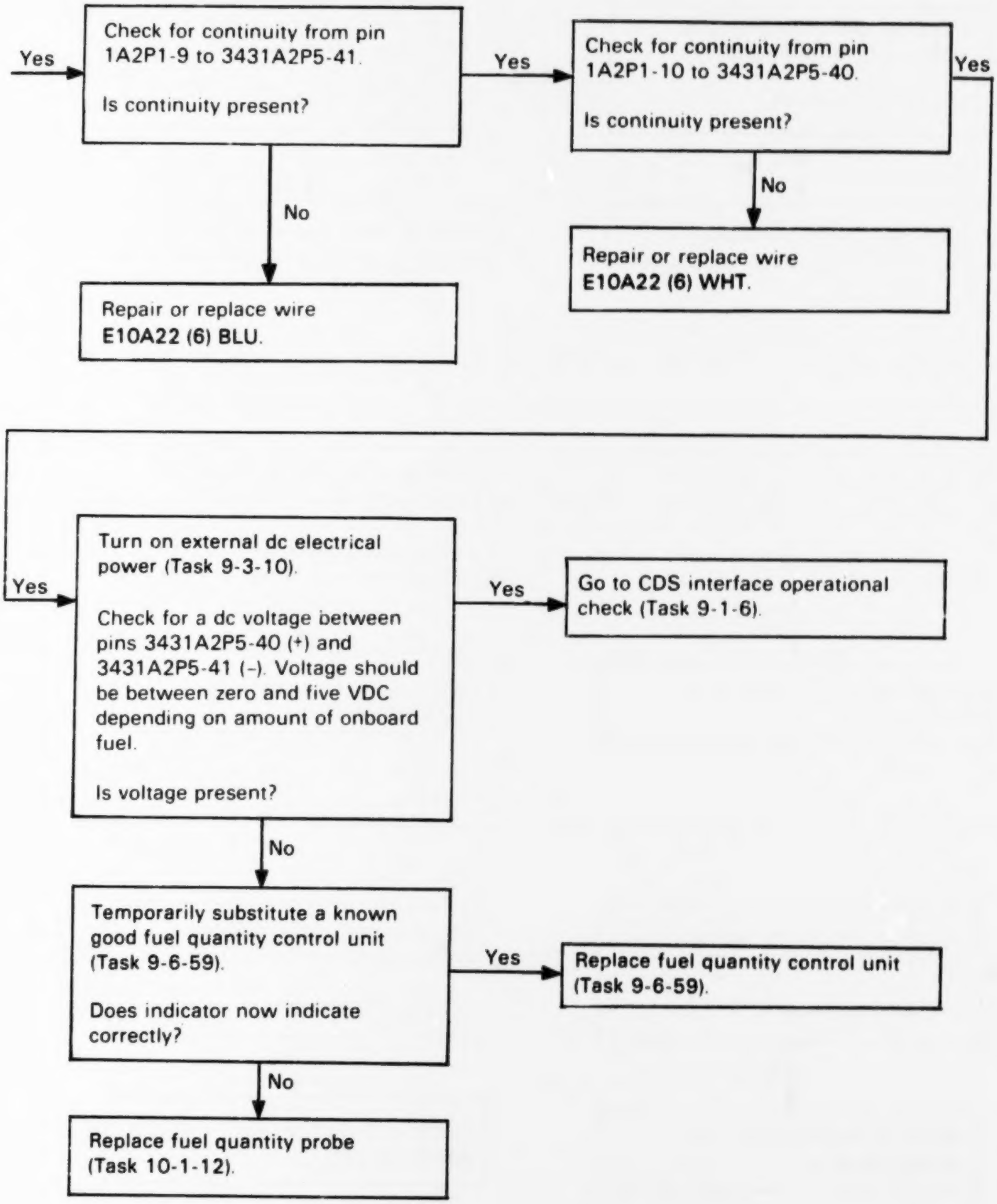
Repair or replace wire E1A22 (2).

Replace module L of 22TB2 (Task 9-6-47).

123. FUEL QUANTITY INDICATOR NOT CORRECT (CONT)


Yes
Check for continuity from pin 1A2P1-6 to airframe ground.
Is continuity present?
No
Repair or replace wire E2A22N (2).
Yes
Check for continuity from pin 1A2P1-7 to airframe ground.
Is continuity present?
No
Repair or replace wire E3A22N (2).
Yes
Yes
Yes
Check for continuity from pin 1A2P1-12 to airframe ground.
Is continuity present?
No
Repair or replace wire E77A22N (2).
Yes
Check for continuity from pin 1A2P1-17 to terminal 1Z1-1.
Is continuity present?
No
Repair or replace wire E4A22 (8) WHT.
Yes
Yes
Check for continuity from pin 1A2P1-18 to terminal 1Z1-2.
Is continuity present?
No
Repair or replace wire E4A22 (8) BLU.
Yes
Check for continuity from pin 1A2P1-19 to terminal 1Z1-3.
Is continuity present?
No
Repair or replace wire E4A22 (8) ORN.
Yes

123. FUEL QUANTITY INDICATOR NOT CORRECT (CONT)



Check for continuity from pin 1A2P1-9 to 3431A2P5-41.

Is continuity present?

Repair or replace wire **E10A22 (6) BLU.**

Check for continuity from pin 1A2P1-10 to 3431A2P5-40.

Is continuity present?

Repair or replace wire **E10A22 (6) WHT.**

Turn on external dc electrical power (Task 9-3-10).

Check for a dc voltage between pins 3431A2P5-40 (+) and 3431A2P5-41 (-). Voltage should be between zero and five VDC depending on amount of onboard fuel.

Is voltage present?

Go to CDS interface operational check (Task 9-1-6).

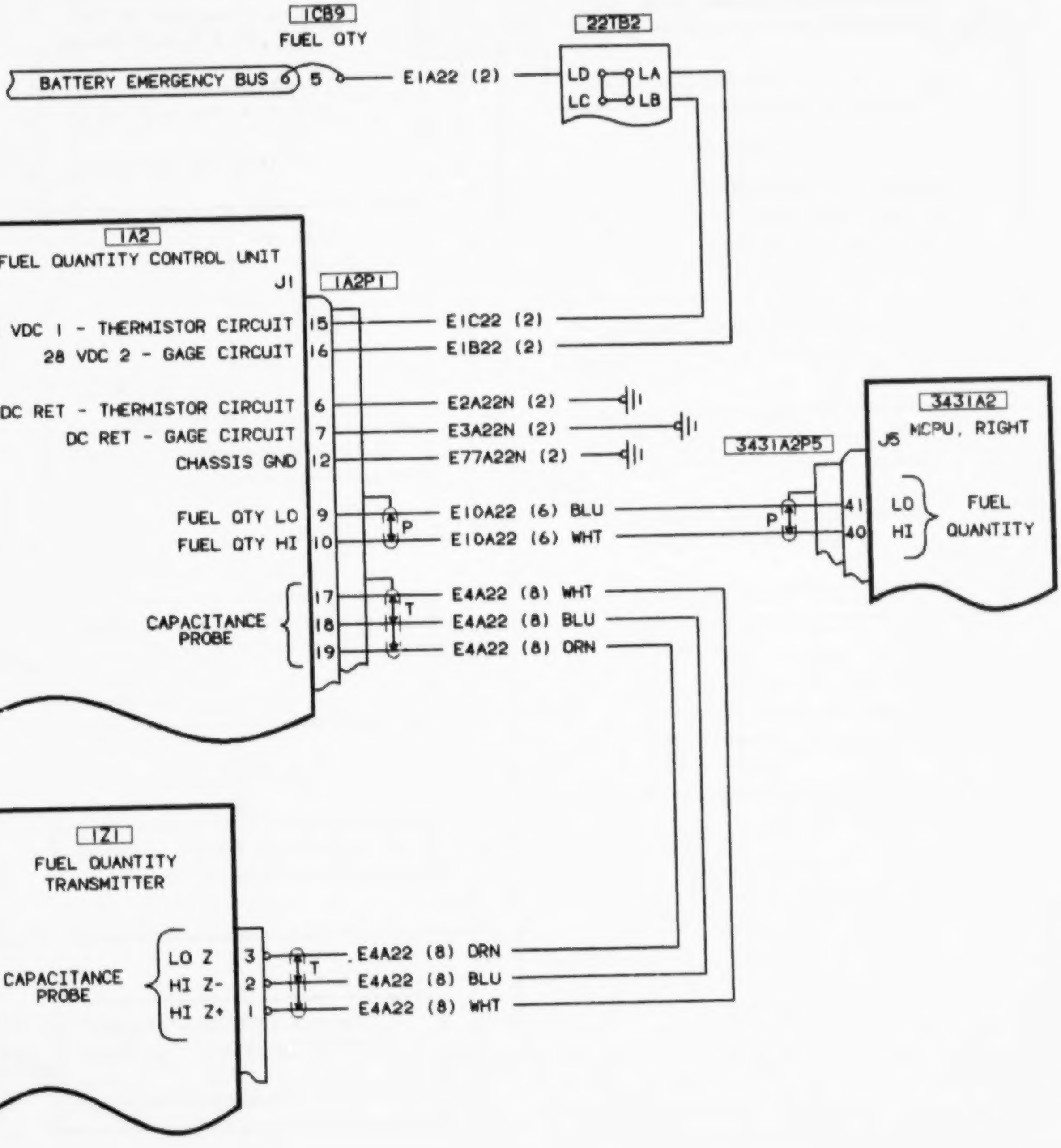
Temporarily substitute a known good fuel quantity control unit (Task 9-6-59).

Does indicator now indicate correctly?

Replace fuel quantity control unit (Task 9-6-59).

Replace fuel quantity probe (Task 10-1-12).

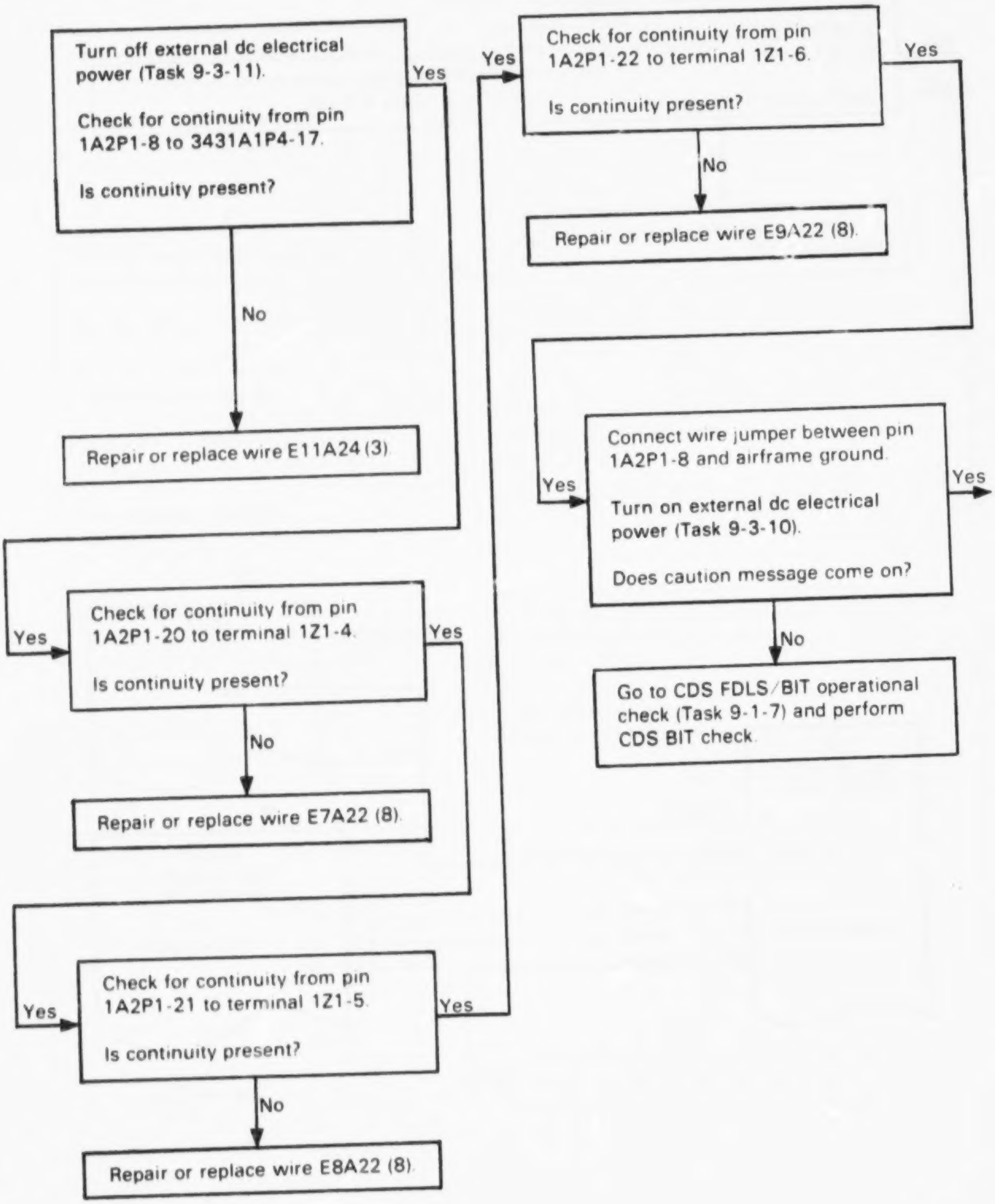
123. FUEL QUANTITY INDICATOR NOT CORRECT (CONT)


1CB9
FUEL QTY
BATTERY EMERGENCY BUS
5
E1A22 (2)
22TB2
LD
LA
LC
LB
1A2
FUEL QUANTITY CONTROL UNIT
J1
1A2P1
28 VDC 1 - THERMISTOR CIRCUIT
15
28 VDC 2 - GAGE CIRCUIT
16
E1C22 (2)
E1B22 (2)
DC RET - THERMISTOR CIRCUIT
6
DC RET - GAGE CIRCUIT
7
CHASSIS GND
12
E2A22N (2)
E3A22N (2)
E77A22N (2)
FUEL QTY LO
9
FUEL QTY HI
10
P
E10A22 (6) BLU
E10A22 (6) WHT
CAPACITANCE PROBE
17
18
19
T
E4A22 (8) WHT
E4A22 (8) BLU
E4A22 (8) ORN
3431A2
MCPU, RIGHT
J5
3431A2P5
P
41
40
LO
HI
FUEL QUANTITY
1Z1
FUEL QUANTITY TRANSMITTER
CAPACITANCE PROBE
LO Z
HI Z-
HI Z+
3
2
1
T
E4A22 (8) ORN
E4A22 (8) BLU
E4A22 (8) WHT

124. FUEL QUANTITY READOUT ON MFD DISAGREES WITH FUEL QUANTITY READOUT ON VERTICAL SCALE INSTRUMENT

Replace MPD (Tasks 8-1-5/9).

125. CAUTION MESSAGE FUEL LOW DOES NOT COME ON AT 100 POUNDS REMAINING FUEL



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1A2P1-8 to 3431A1P4-17.

Is continuity present?

Repair or replace wire E11A24 (3).

Check for continuity from pin 1A2P1-20 to terminal 1Z1-4.

Is continuity present?

Repair or replace wire E7A22 (8).

Check for continuity from pin 1A2P1-21 to terminal 1Z1-5.

Is continuity present?

Repair or replace wire E8A22 (8).

Check for continuity from pin 1A2P1-22 to terminal 1Z1-6.

Is continuity present?

Repair or replace wire E9A22 (8).

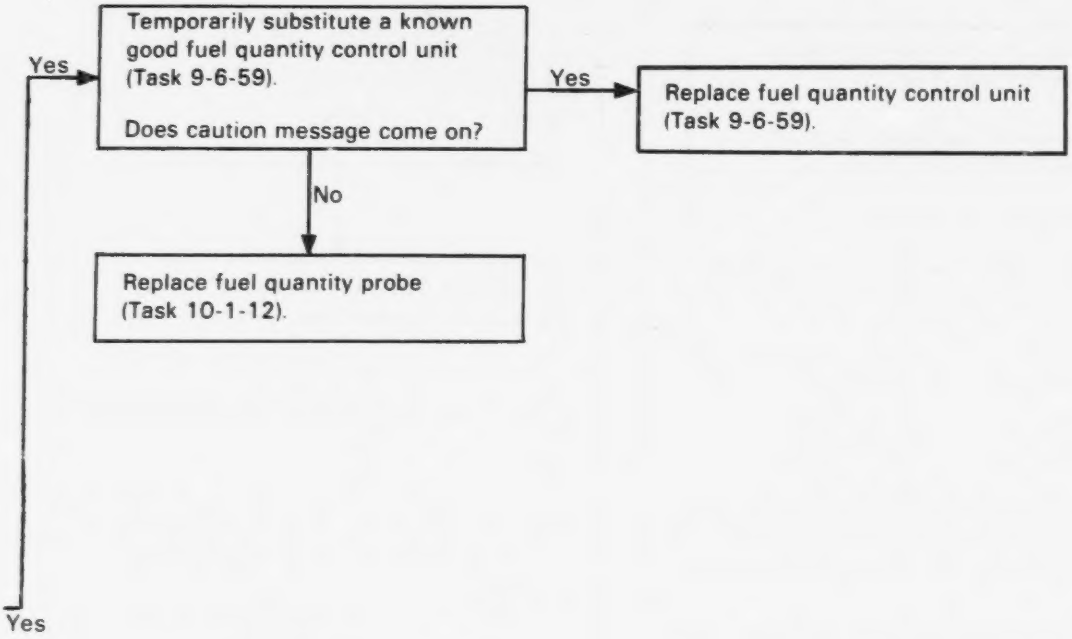
Connect wire jumper between pin 1A2P1-8 and airframe ground.

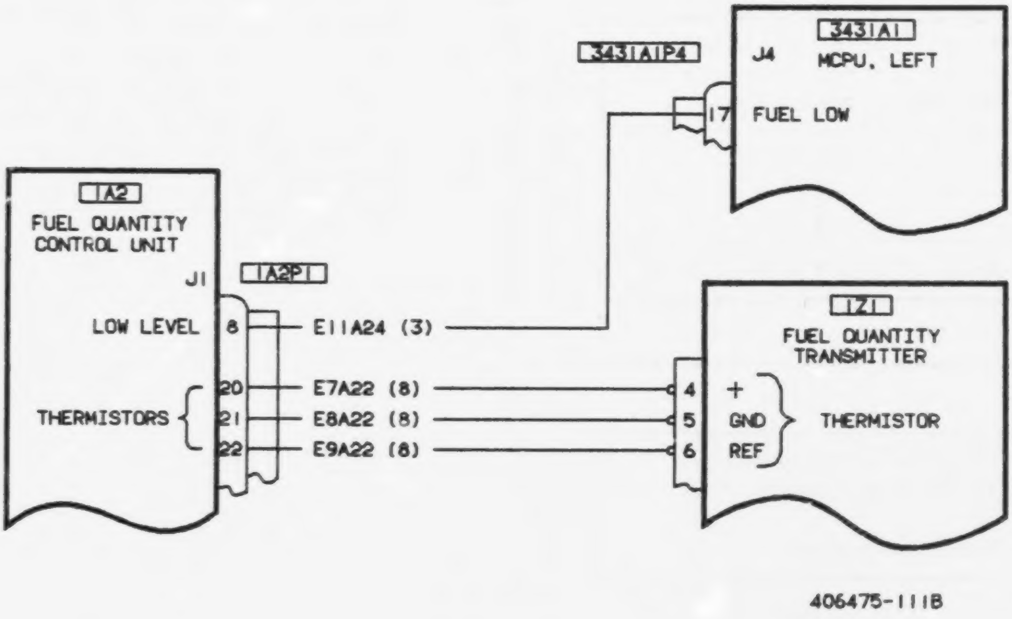
Turn on external dc electrical power (Task 9-3-10).

Does caution message come on?

Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

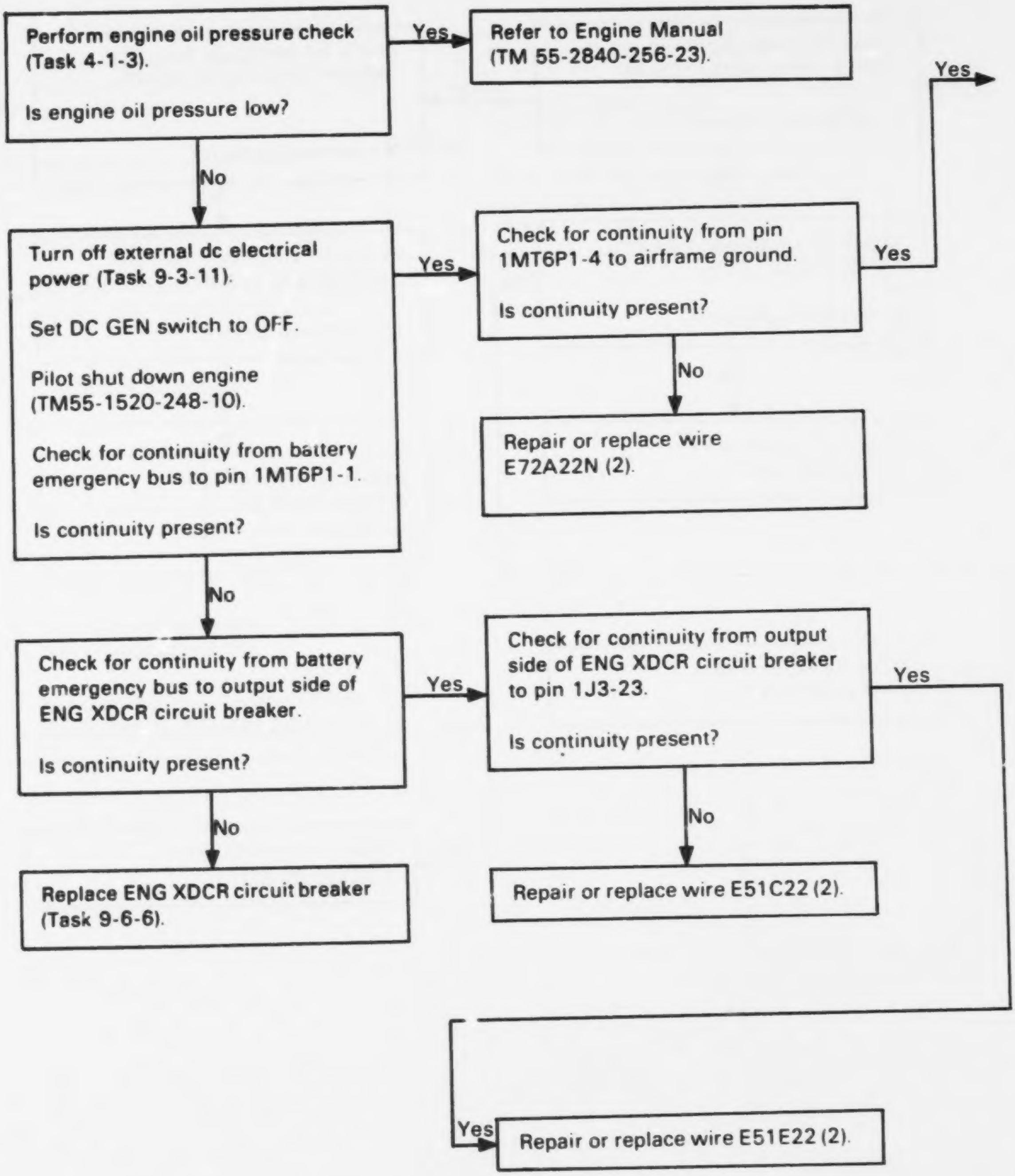
125. CAUTION MESSAGE FUEL LOW DOES NOT COME ON AT 100 POUNDS REMAINING FUEL (CONT)


Yes
Temporarily substitute a known good fuel quantity control unit (Task 9-6-59).
Does caution message come on?
Yes
Replace fuel quantity control unit (Task 9-6-59).
No
Replace fuel quantity probe (Task 10-1-12).
Yes


3431A1P4
3431A1
J4
MCPU, LEFT
17
FUEL LOW
1A2
FUEL QUANTITY CONTROL UNIT
J1
1A2P1
LOW LEVEL
8
E11A24 (3)
THERMISTORS
20
21
22
E7A22 (8)
E8A22 (8)
E9A22 (8)
1Z1
FUEL QUANTITY TRANSMITTER
4
5
6
+
GND
REF
THERMISTOR

406475-111B

126. CAUTION MESSAGE LOW OIL PRESS ENG REMAINS ON (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON)



Perform engine oil pressure check (Task 4-1-3).

Is engine oil pressure low?

Refer to Engine Manual (TM 55-2840-256-23).

Turn off external dc electrical power (Task 9-3-11).

Set DC GEN switch to OFF.

Pilot shut down engine (TM55-1520-248-10).

Check for continuity from battery emergency bus to pin 1MT6P1-1.

Is continuity present?

Check for continuity from pin 1MT6P1-4 to airframe ground.

Is continuity present?

Repair or replace wire E72A22N (2).

Check for continuity from battery emergency bus to output side of ENG XDCR circuit breaker.

Is continuity present?

Check for continuity from output side of ENG XDCR circuit breaker to pin 1J3-23.

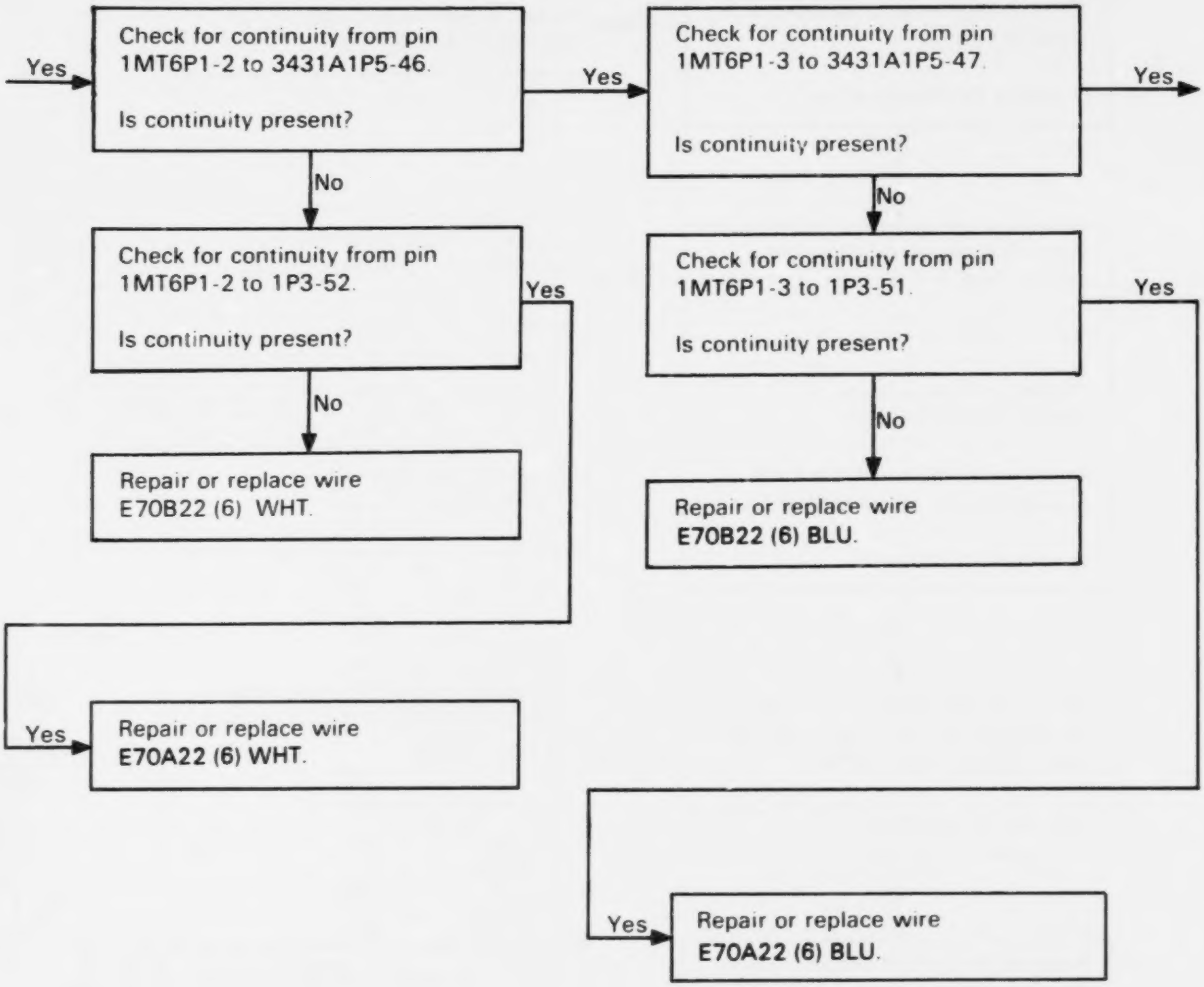
Is continuity present?

Replace ENG XDCR circuit breaker (Task 9-6-6).

Repair or replace wire E51C22 (2).

Repair or replace wire E51E22 (2).

126. CAUTION MESSAGE LOW OIL PRESS ENG REMAINS ON (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Check for continuity from pin 1MT6P1-2 to 3431A1P5-46.

Is continuity present?

Check for continuity from pin 1MT6P1-2 to 1P3-52.

Is continuity present?

Repair or replace wire E70B22 (6) WHT.

Repair or replace wire E70A22 (6) WHT.

Check for continuity from pin 1MT6P1-3 to 3431A1P5-47.

Is continuity present?

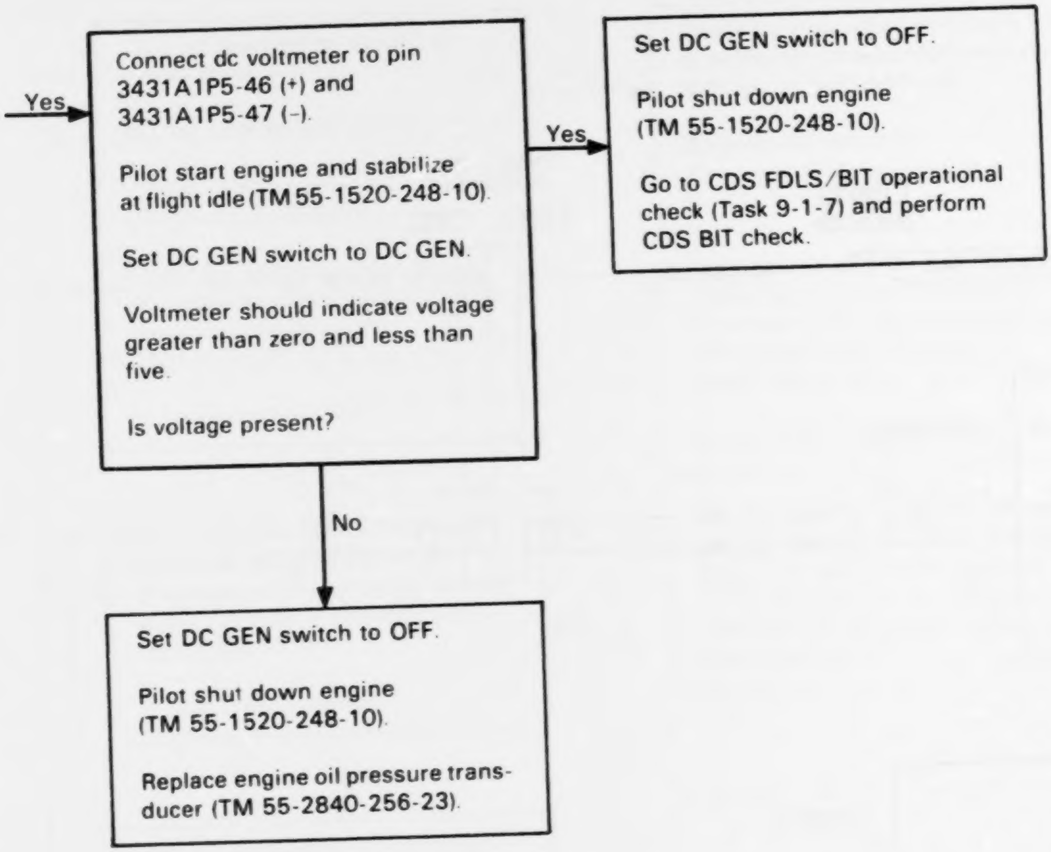
Check for continuity from pin 1MT6P1-3 to 1P3-51.

Is continuity present?

Repair or replace wire E70B22 (6) BLU.

Repair or replace wire E70A22 (6) BLU.

126. CAUTION MESSAGE LOW OIL PRESS ENG REMAINS ON (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Connect dc voltmeter to pin 3431A1P5-46 (+) and 3431A1P5-47 (-).

Pilot start engine and stabilize at flight idle (TM 55-1520-248-10).

Set DC GEN switch to DC GEN.

Voltmeter should indicate voltage greater than zero and less than five.

Is voltage present?

Set DC GEN switch to OFF.

Pilot shut down engine (TM 55-1520-248-10).

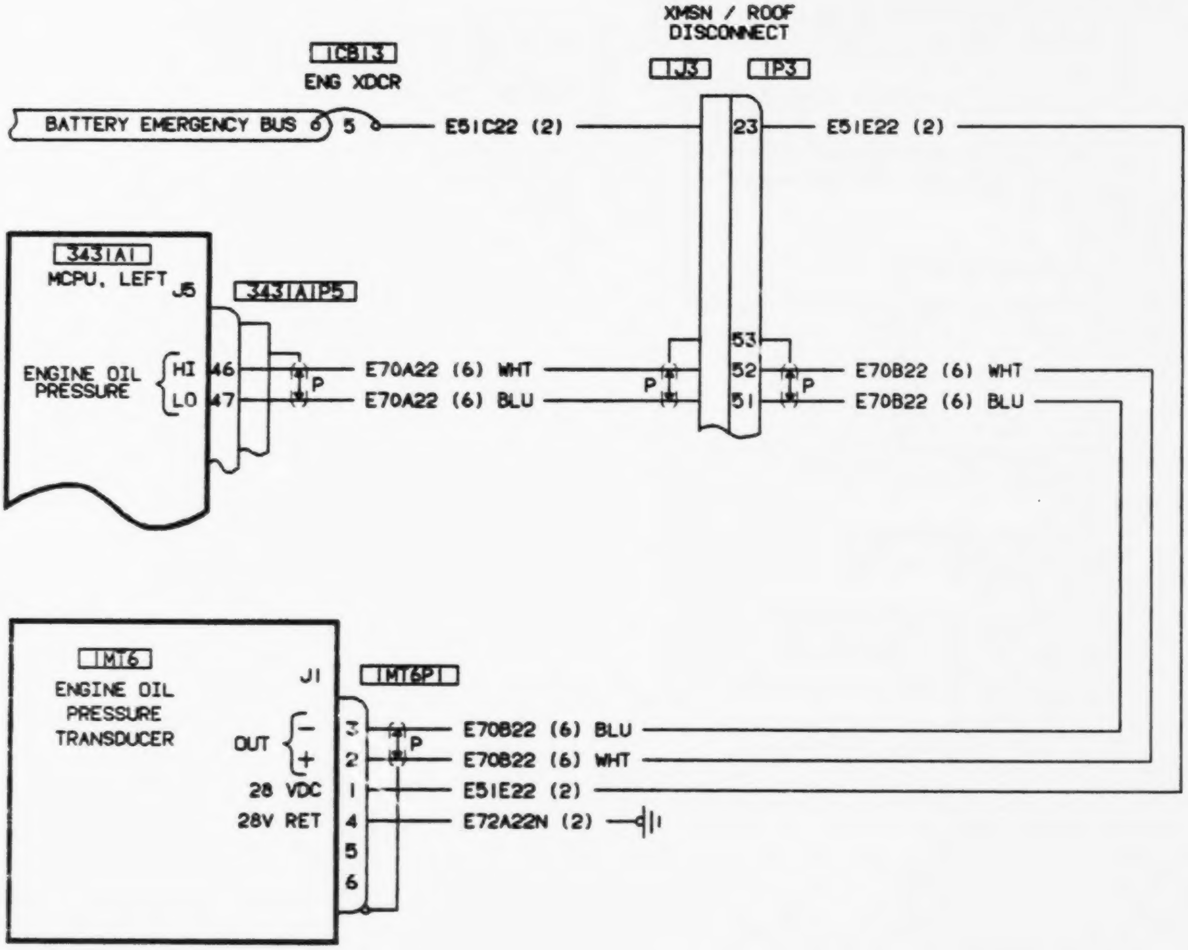
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

Set DC GEN switch to OFF.

Pilot shut down engine (TM 55-1520-248-10).

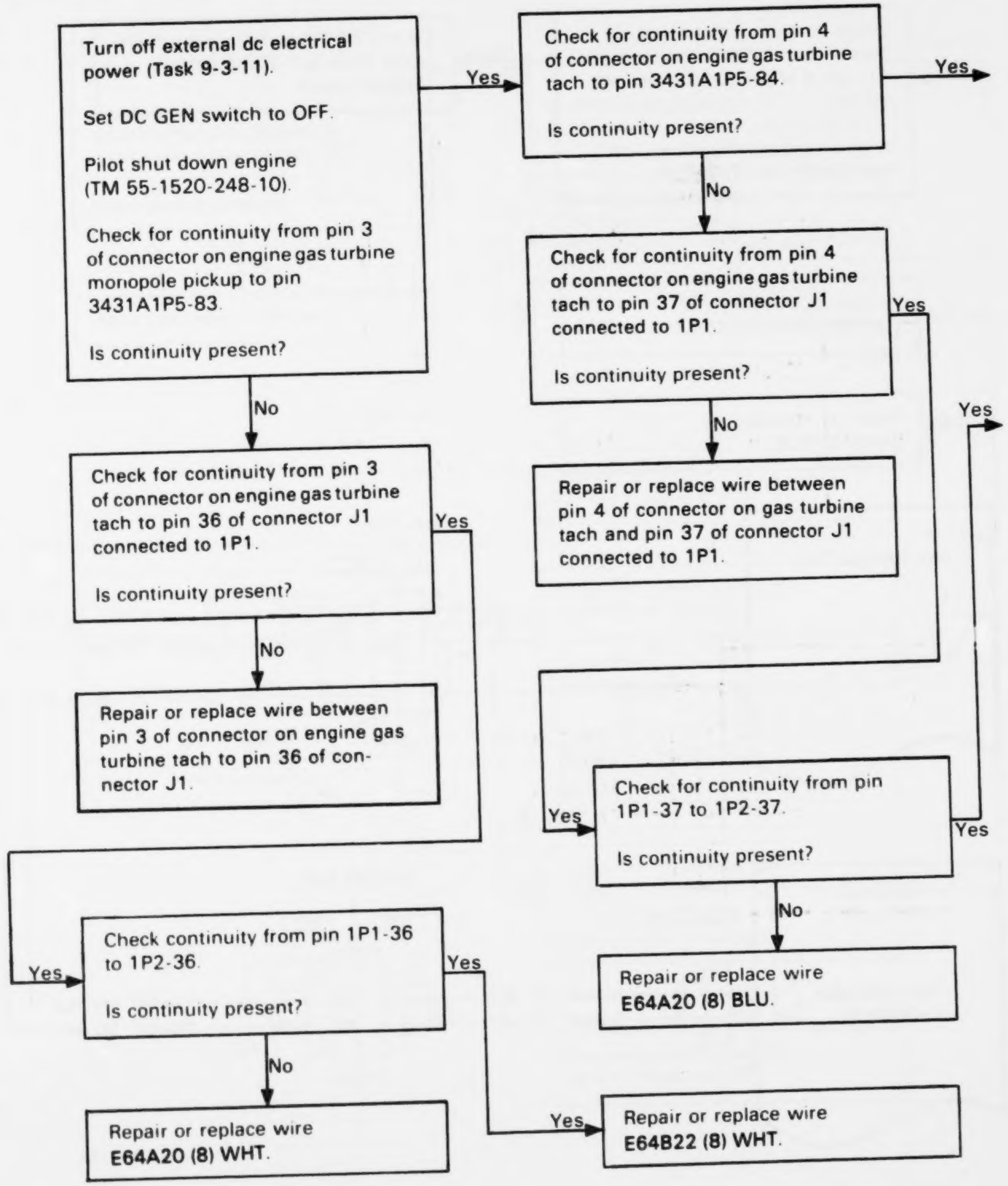
Replace engine oil pressure transducer (TM 55-2840-256-23).

126. CAUTION MESSAGE LOW OIL PRESS ENG REMAINS ON (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


XMSN / ROOF
DISCONNECT
1CB13
ENG XDCR
1J3
1P3
BATTERY EMERGENCY BUS
6
5
E51C22 (2)
23
E51E22 (2)
3431A1
MCPU, LEFT
J5
3431A1P5
ENGINE OIL PRESSURE
HI
LO
46
47
P
E70A22 (6) WHT
E70A22 (6) BLU
53
52
51
E70B22 (6) WHT
E70B22 (6) BLU
1MT6
ENGINE OIL PRESSURE TRANSDUCER
J1
1MT6P1
OUT
−
+
28 VDC
28V RET
3
2
1
4
5
6
E70B22 (6) BLU
E70B22 (6) WHT
E51E22 (2)
E72A22N (2)

406475-112A

127. WARNING MESSAGE ENGINE OUT REMAINS ON, (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON)



Turn off external dc electrical power (Task 9-3-11).

Set DC GEN switch to OFF.

Pilot shut down engine (TM 55-1520-248-10).

Check for continuity from pin 3 of connector on engine gas turbine monopole pickup to pin 3431A1P5-83.

Is continuity present?

Check for continuity from pin 3 of connector on engine gas turbine tach to pin 36 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire between pin 3 of connector on engine gas turbine tach to pin 36 of connector J1.

Check continuity from pin 1P1-36 to 1P2-36.

Is continuity present?

Repair or replace wire E64A20 (8) WHT.

Repair or replace wire E64B22 (8) WHT.

Check for continuity from pin 4 of connector on engine gas turbine tach to pin 3431A1P5-84.

Is continuity present?

Check for continuity from pin 4 of connector on engine gas turbine tach to pin 37 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire between pin 4 of connector on gas turbine tach and pin 37 of connector J1 connected to 1P1.

Check for continuity from pin 1P1-37 to 1P2-37.

Is continuity present?

Repair or replace wire E64A20 (8) BLU.

127. WARNING MESSAGE ENGINE OUT REMAINS ON, (HELICOPTER STABILIZED AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

Yes →

Check for continuity (resistance greater than 2000 ohms) from pin 3 to pin 4 of gas turbine tach on engine.

Is continuity (resistance greater than 2000 ohms) present?

Yes →

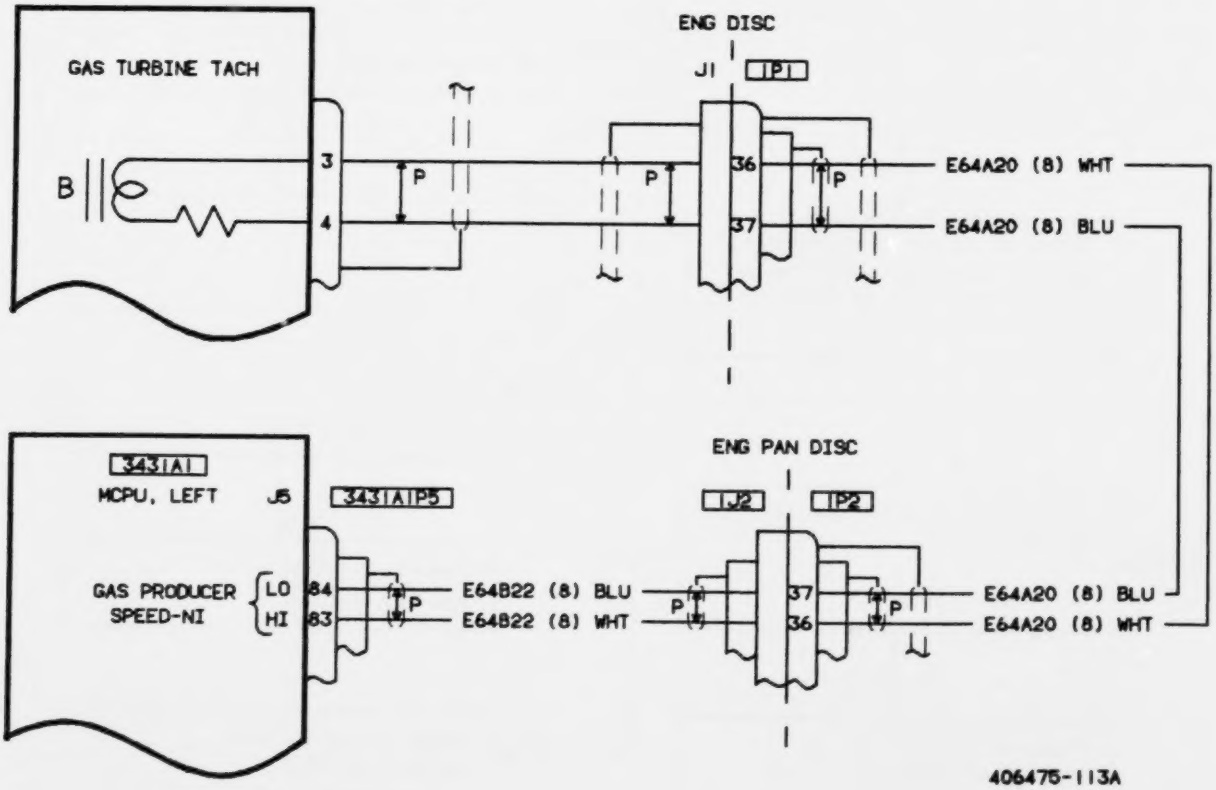
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check.

No ↓

Replace gas turbine tach (TM 55-2840-256-23).

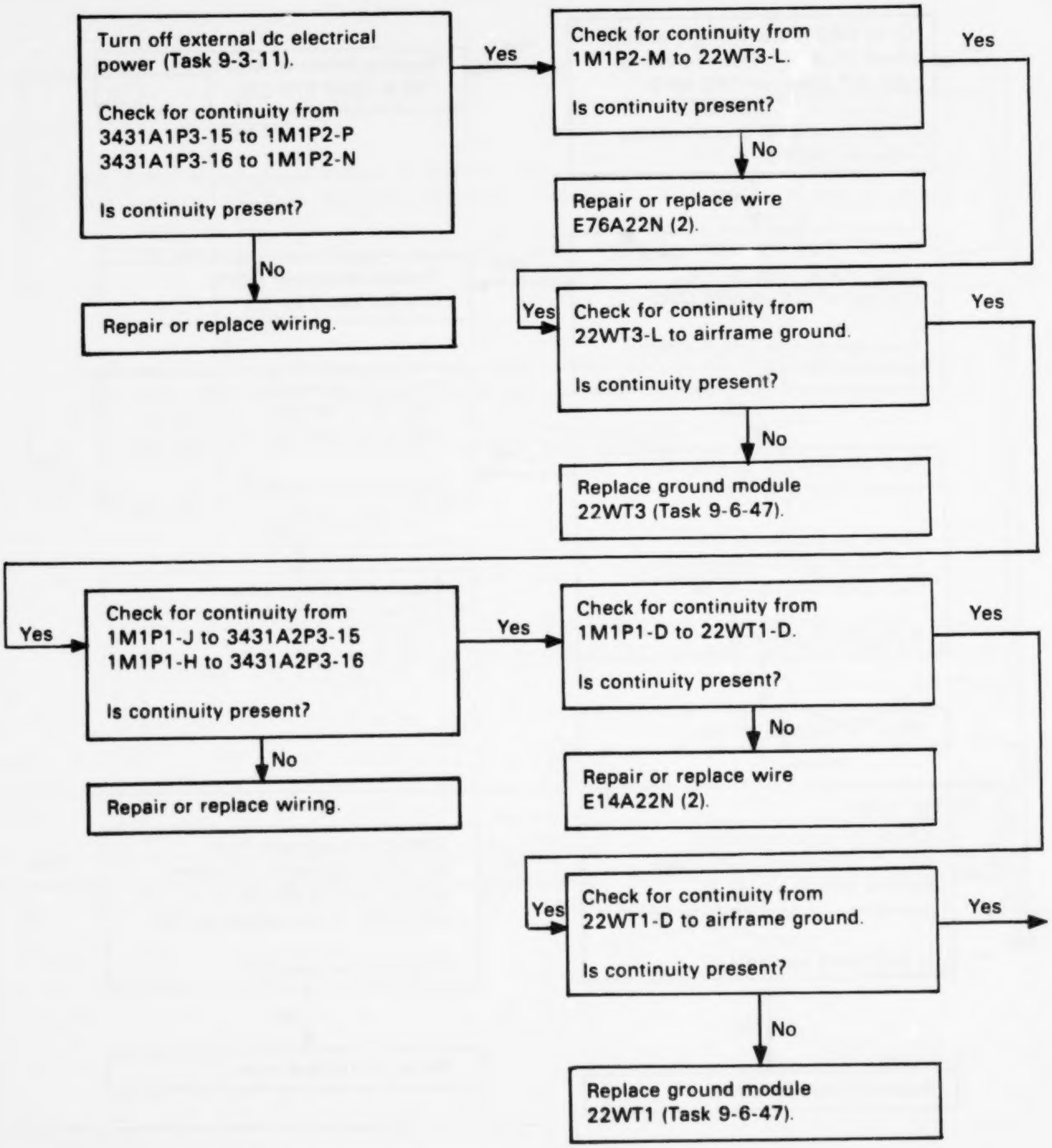
Yes →

Repair or replace wire E64B22 (8) BLU.


GAS TURBINE TACH
B
3
4
P
ENG DISC
J1
P1
36
37
E64A20 (8) WHT
E64A20 (8) BLU
343IA1
MCPU, LEFT
J5
343IAIP5
GAS PRODUCER SPEED-NI
LO
HI
84
83
E64B22 (8) BLU
E64B22 (8) WHT
ENG PAN DISC
J2
P2
37
36
E64A20 (8) BLU
E64A20 (8) WHT

406475-113A

128. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P3-15 to 1M1P2-P
3431A1P3-16 to 1M1P2-N

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
1M1P1-J to 3431A2P3-15
1M1P1-H to 3431A2P3-16

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

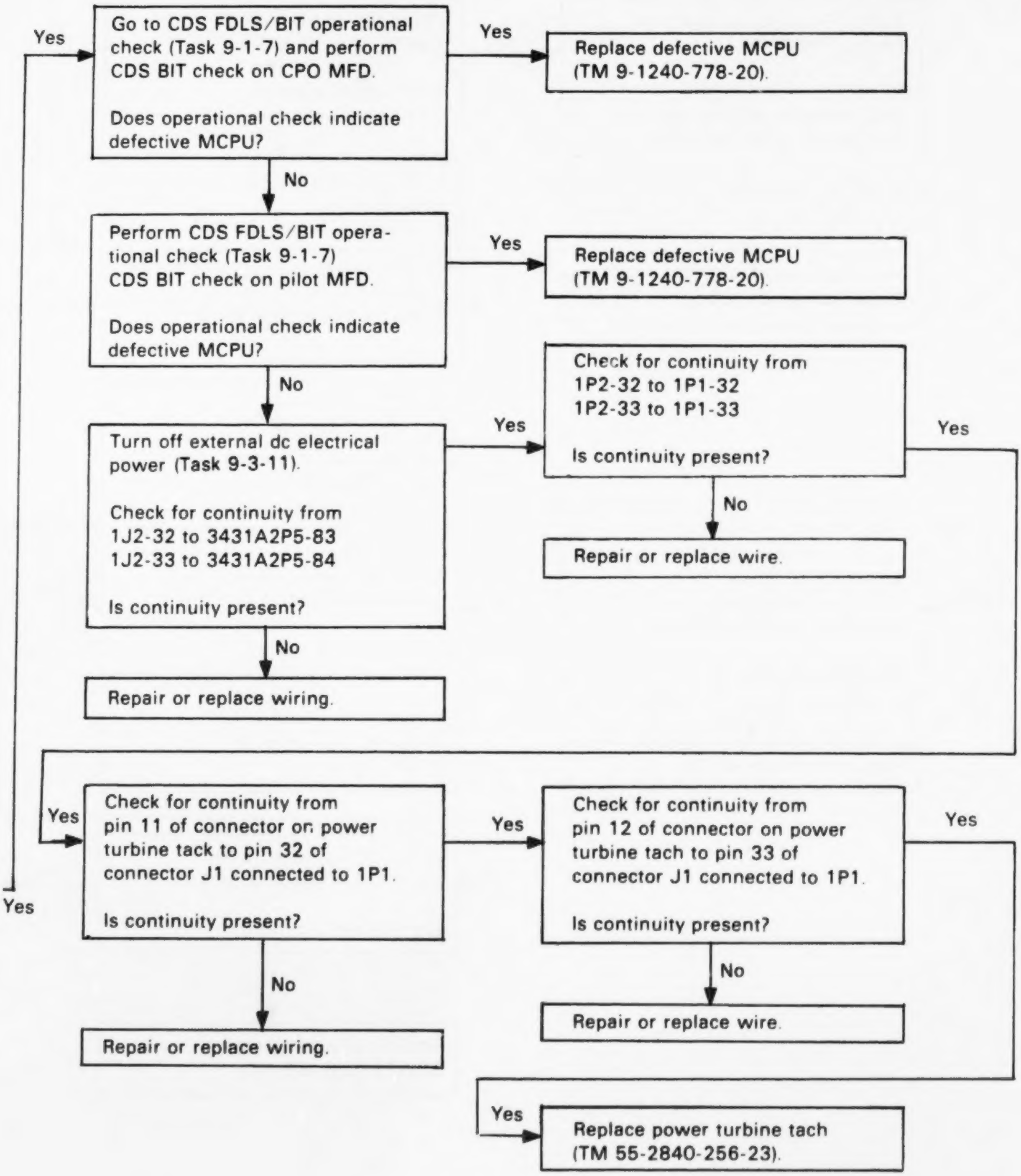
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

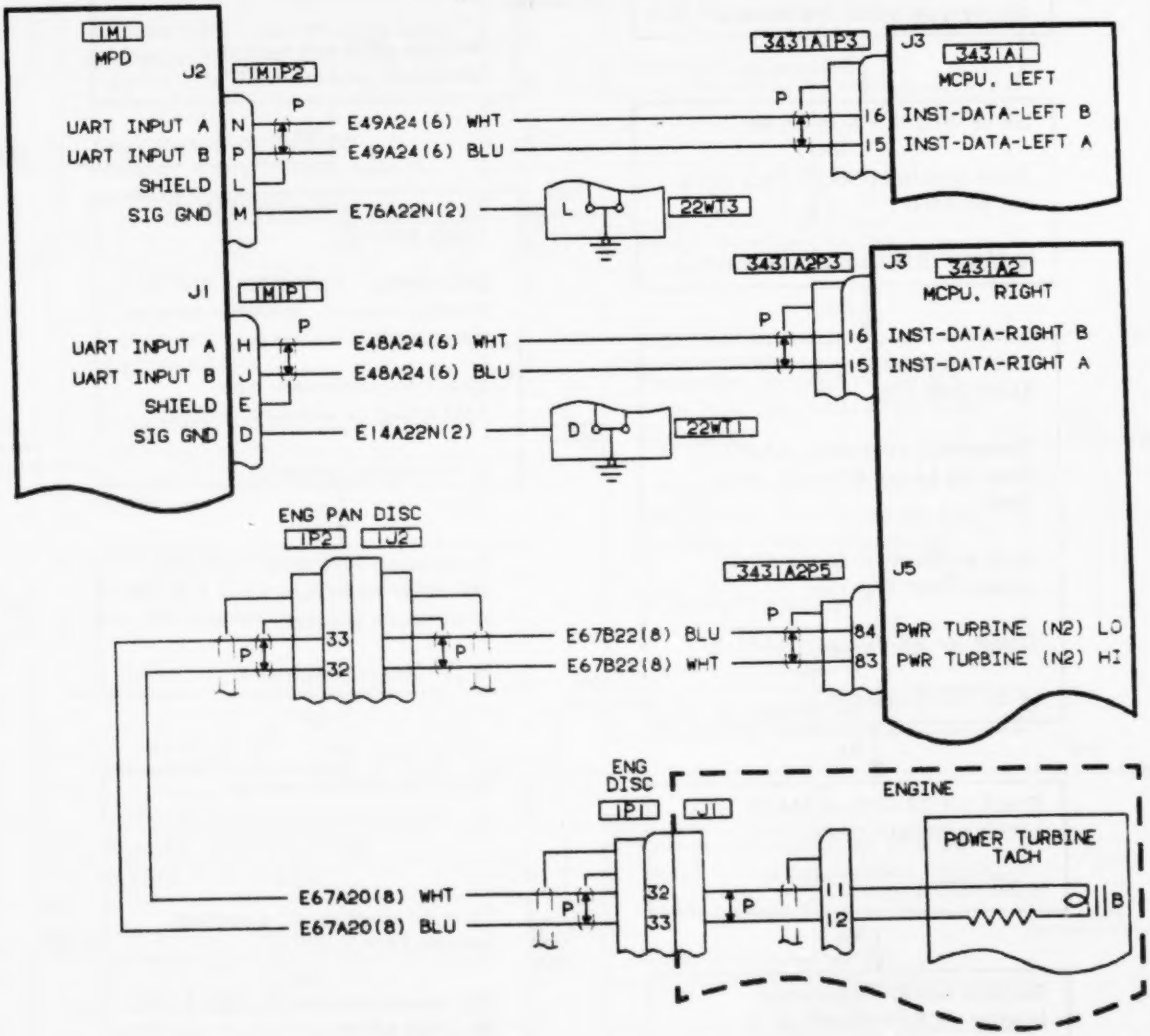
Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

128. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

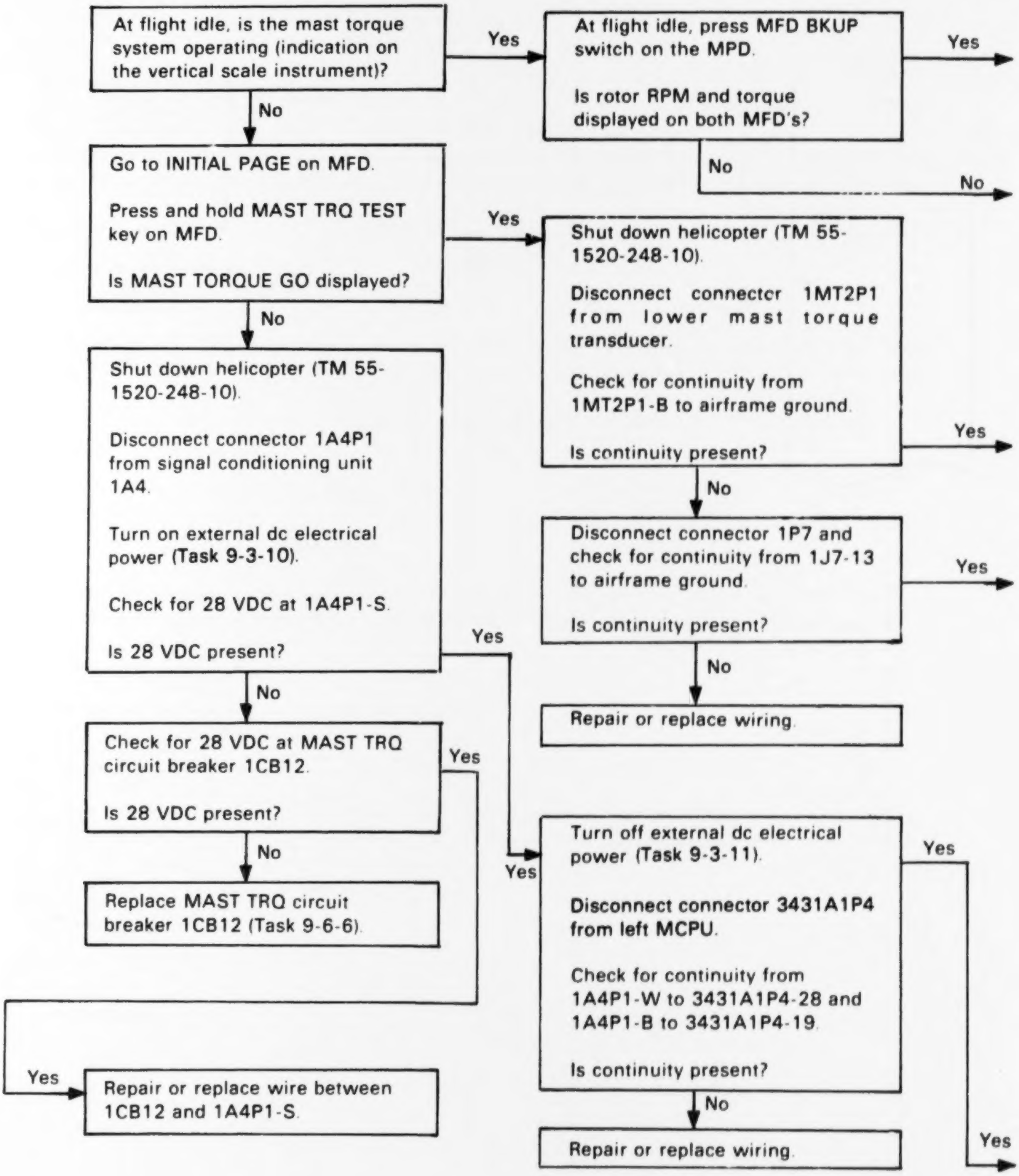

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from
1J2-32 to 3431A2P5-83
1J2-33 to 3431A2P5-84
Is continuity present?
Yes
Check for continuity from
1P2-32 to 1P1-32
1P2-33 to 1P1-33
Is continuity present?
No
Repair or replace wire.
Yes
No
Repair or replace wiring.
Yes
Check for continuity from pin 11 of connector on power turbine tack to pin 32 of connector J1 connected to 1P1.
Is continuity present?
Yes
Yes
Check for continuity from pin 12 of connector on power turbine tach to pin 33 of connector J1 connected to 1P1.
Is continuity present?
Yes
No
Repair or replace wiring.
No
Repair or replace wire.
Yes
Replace power turbine tach (TM 55-2840-256-23).

128. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
343IA1P3
J3
343IA1
MCPU, LEFT
P
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
P
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
343IA2P3
J3
343IA2
MCPU, RIGHT
P
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
33
32
P
P
E67B22(8) BLU
E67B22(8) WHT
343IA2P5
J5
P
84
83
PWR TURBINE (N2) LO
PWR TURBINE (N2) HI
ENG DISC
1P1
J1
ENGINE
POWER TURBINE TACH
E67A20(8) WHT
E67A20(8) BLU
P
32
33
P
11
12
B

406475-219

129. ROTOR NR RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)



At flight idle, is the mast torque system operating (indication on the vertical scale instrument)?

At flight idle, press MFD BKUP switch on the MPD.

Is rotor RPM and torque displayed on both MFD's?

Go to INITIAL PAGE on MFD.

Press and hold MAST TRQ TEST key on MFD.

Is MAST TORQUE GO displayed?

Shut down helicopter (TM 55-1520-248-10).

Disconnect connector 1MT2P1 from lower mast torque transducer.

Check for continuity from 1MT2P1-B to airframe ground.

Is continuity present?

Shut down helicopter (TM 55-1520-248-10).

Disconnect connector 1A4P1 from signal conditioning unit 1A4.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at 1A4P1-S.

Is 28 VDC present?

Disconnect connector 1P7 and check for continuity from 1J7-13 to airframe ground.

Is continuity present?

Repair or replace wiring.

Check for 28 VDC at MAST TRQ circuit breaker 1CB12.

Is 28 VDC present?

Replace MAST TRQ circuit breaker 1CB12 (Task 9-6-6).

Turn off external dc electrical power (Task 9-3-11).

Disconnect connector 3431A1P4 from left MCPU.

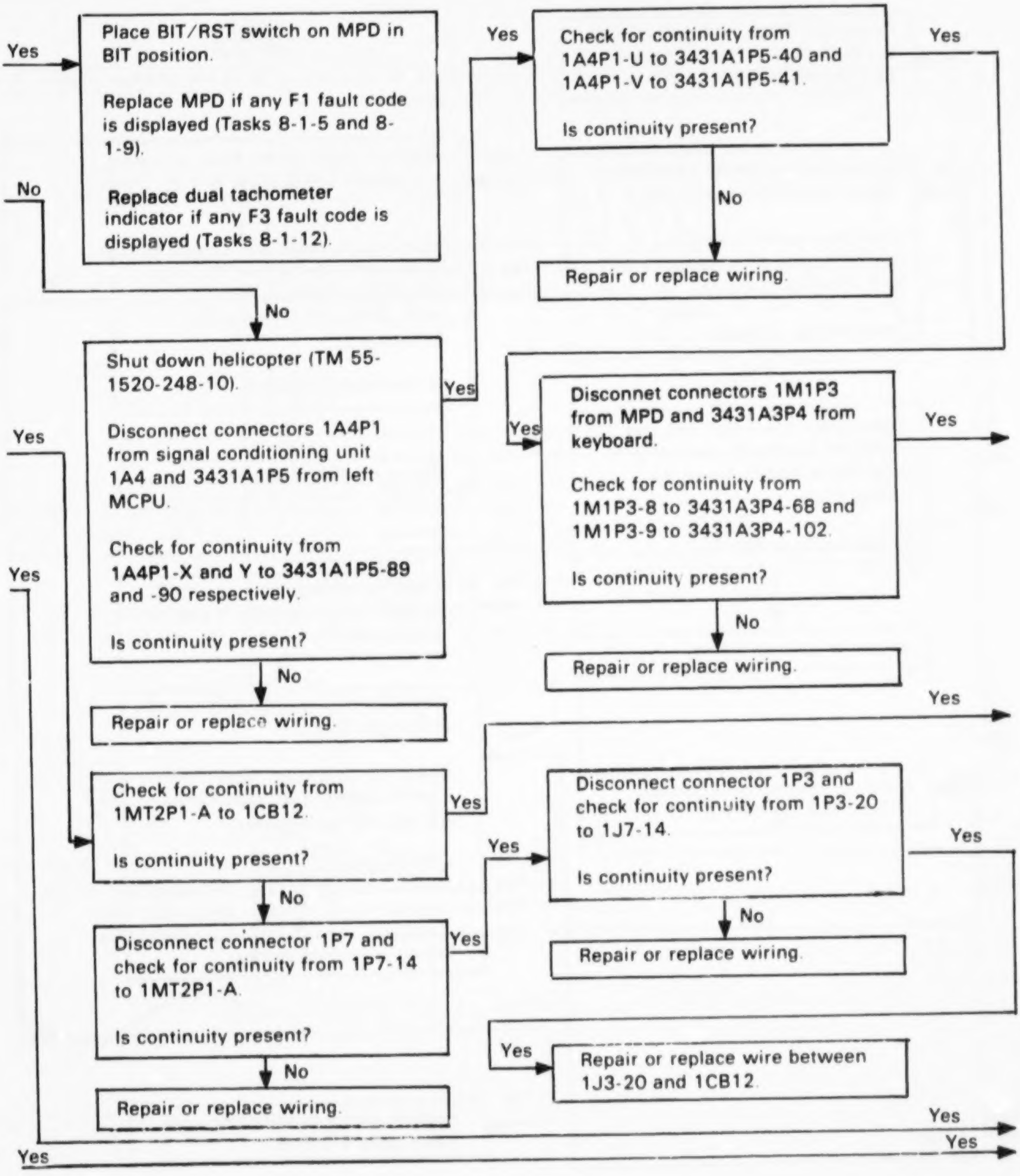
Check for continuity from 1A4P1-W to 3431A1P4-28 and 1A4P1-B to 3431A1P4-19.

Is continuity present?

Repair or replace wire between 1CB12 and 1A4P1-S.

Repair or replace wiring.

129. ROTOR NR RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Place BIT/RST switch on MPD in BIT position.

Replace MPD if any F1 fault code is displayed (Tasks 8-1-5 and 8-1-9).

Replace dual tachometer indicator if any F3 fault code is displayed (Tasks 8-1-12).

Shut down helicopter (TM 55-1520-248-10).

Disconnect connectors 1A4P1 from signal conditioning unit 1A4 and 3431A1P5 from left MCPU.

Check for continuity from 1A4P1-X and Y to 3431A1P5-89 and -90 respectively.

Is continuity present?

Repair or replace wiring.

Check for continuity from 1A4P1-U to 3431A1P5-40 and 1A4P1-V to 3431A1P5-41.

Is continuity present?

Repair or replace wiring.

Disconnet connectors 1M1P3 from MPD and 3431A3P4 from keyboard.

Check for continuity from 1M1P3-8 to 3431A3P4-68 and 1M1P3-9 to 3431A3P4-102.

Is continuity present?

Repair or replace wiring.

Check for continuity from 1MT2P1-A to 1CB12.

Is continuity present?

Disconnect connector 1P7 and check for continuity from 1P7-14 to 1MT2P1-A.

Is continuity present?

Repair or replace wiring.

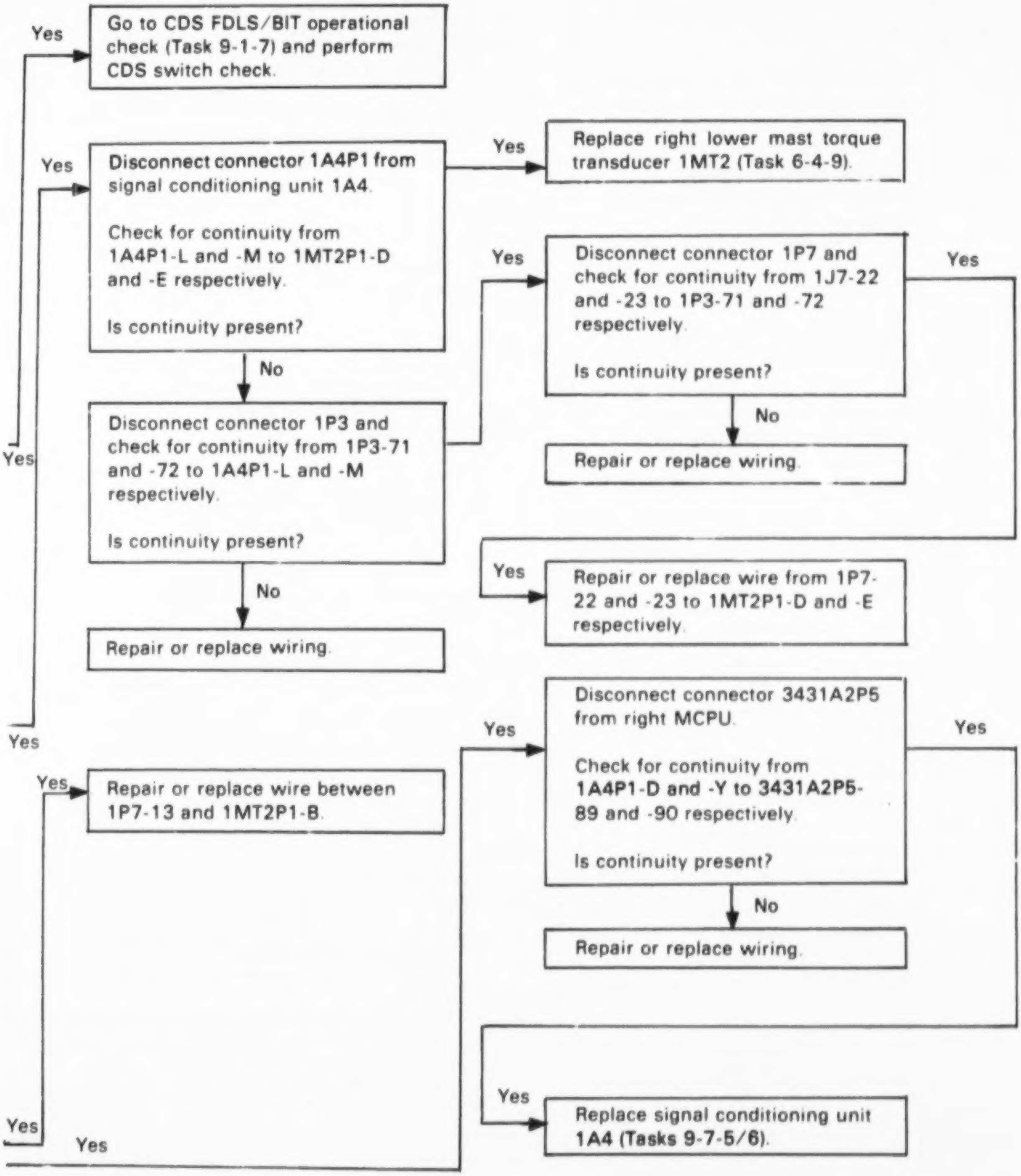
Disconnect connector 1P3 and check for continuity from 1P3-20 to 1J7-14.

Is continuity present?

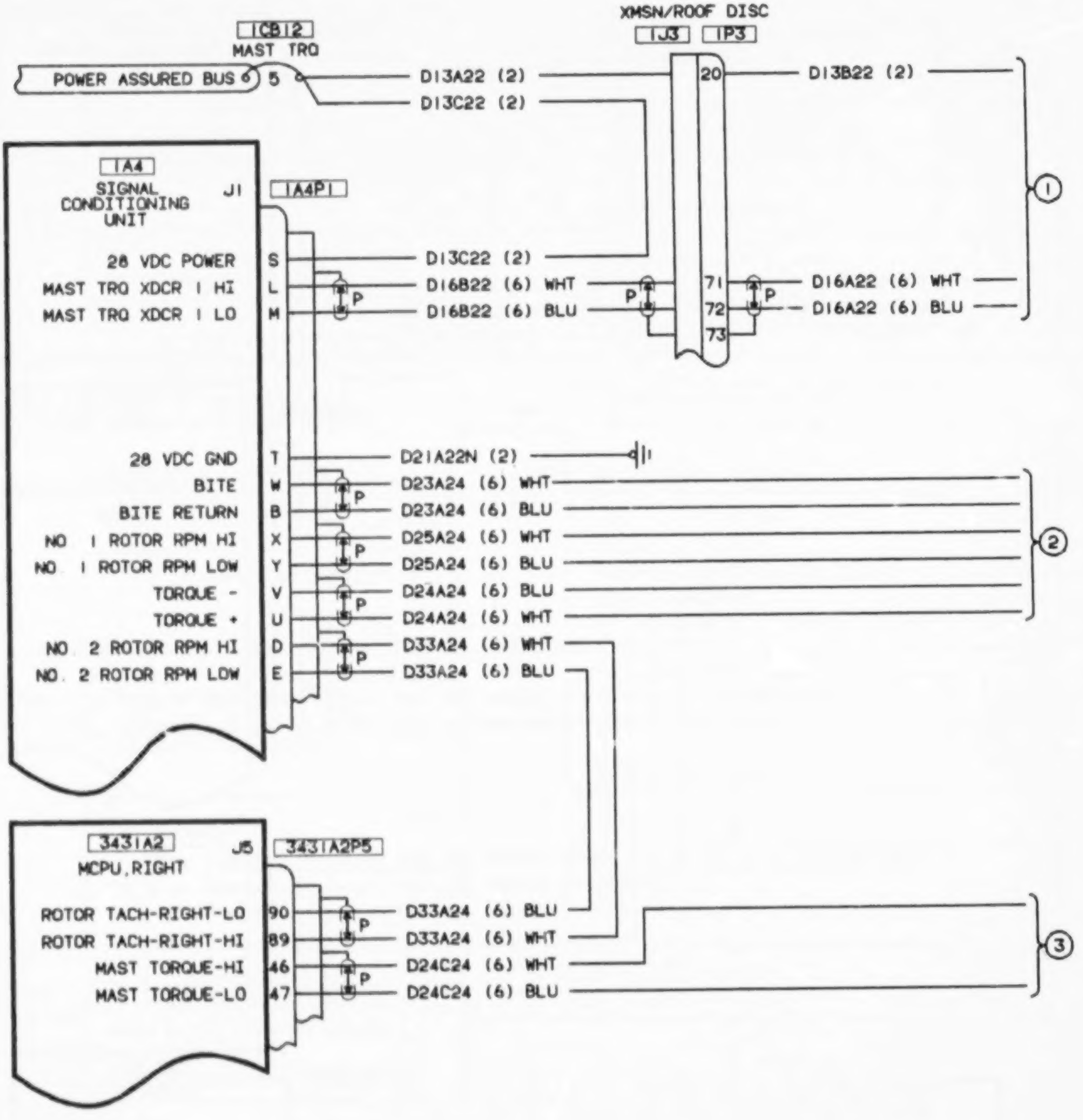
Repair or replace wiring.

Repair or replace wire between 1J3-20 and 1CB12.

129. ROTOR NR RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

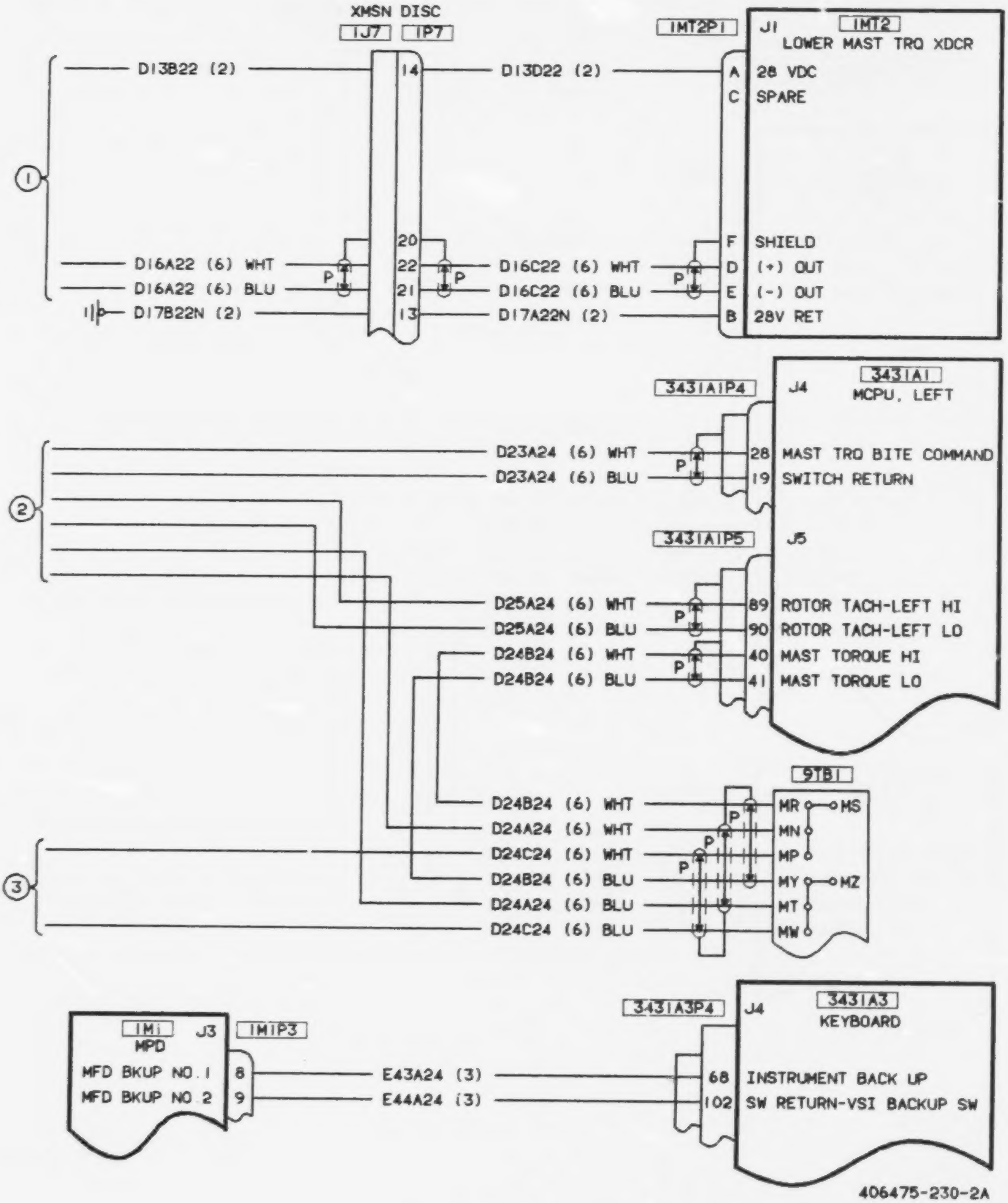

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS switch check.
Yes
Disconnect connector 1A4P1 from signal conditioning unit 1A4. Check for continuity from 1A4P1-L and -M to 1MT2P1-D and -E respectively. Is continuity present?
Yes
Replace right lower mast torque transducer 1MT2 (Task 6-4-9).
No
Disconnect connector 1P3 and check for continuity from 1P3-71 and -72 to 1A4P1-L and -M respectively. Is continuity present?
Yes
Disconnect connector 1P7 and check for continuity from 1J7-22 and -23 to 1P3-71 and -72 respectively. Is continuity present?
Yes
No
Repair or replace wiring.
Yes
No
Repair or replace wiring.
Yes
Repair or replace wire from 1P7-22 and -23 to 1MT2P1-D and -E respectively.
Yes
Yes
Repair or replace wire between 1P7-13 and 1MT2P1-B.
Yes
Disconnect connector 3431A2P5 from right MCPU. Check for continuity from 1A4P1-D and -Y to 3431A2P5-89 and -90 respectively. Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Replace signal conditioning unit 1A4 (Tasks 9-7-5/6).
Yes
Yes

129. ROTOR NR RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


1CB12
MAST TRQ
POWER ASSURED BUS
5
D13A22 (2)
D13C22 (2)
XMSN/ROOF DISC
1J3
1P3
20
D13B22 (2)
1A4
SIGNAL CONDITIONING UNIT
J1
1A4P1
28 VDC POWER
MAST TRQ XDCR 1 HI
MAST TRQ XDCR 1 LO
S
L
M
D13C22 (2)
D16B22 (6) WHT
D16B22 (6) BLU
P
71
72
73
D16A22 (6) WHT
D16A22 (6) BLU
①
28 VDC GND
BITE
BITE RETURN
NO. 1 ROTOR RPM HI
NO. 1 ROTOR RPM LOW
TORQUE -
TORQUE +
NO. 2 ROTOR RPM HI
NO. 2 ROTOR RPM LOW
T
W
B
X
Y
V
U
D
E
D21A22N (2)
D23A24 (6) WHT
D23A24 (6) BLU
D25A24 (6) WHT
D25A24 (6) BLU
D24A24 (6) BLU
D24A24 (6) WHT
D33A24 (6) WHT
D33A24 (6) BLU
②
3431A2
MCPU, RIGHT
J5
3431A2P5
ROTOR TACH-RIGHT-LO
ROTOR TACH-RIGHT-HI
MAST TORQUE-HI
MAST TORQUE-LO
90
89
46
47
D33A24 (6) BLU
D33A24 (6) WHT
D24C24 (6) WHT
D24C24 (6) BLU
③

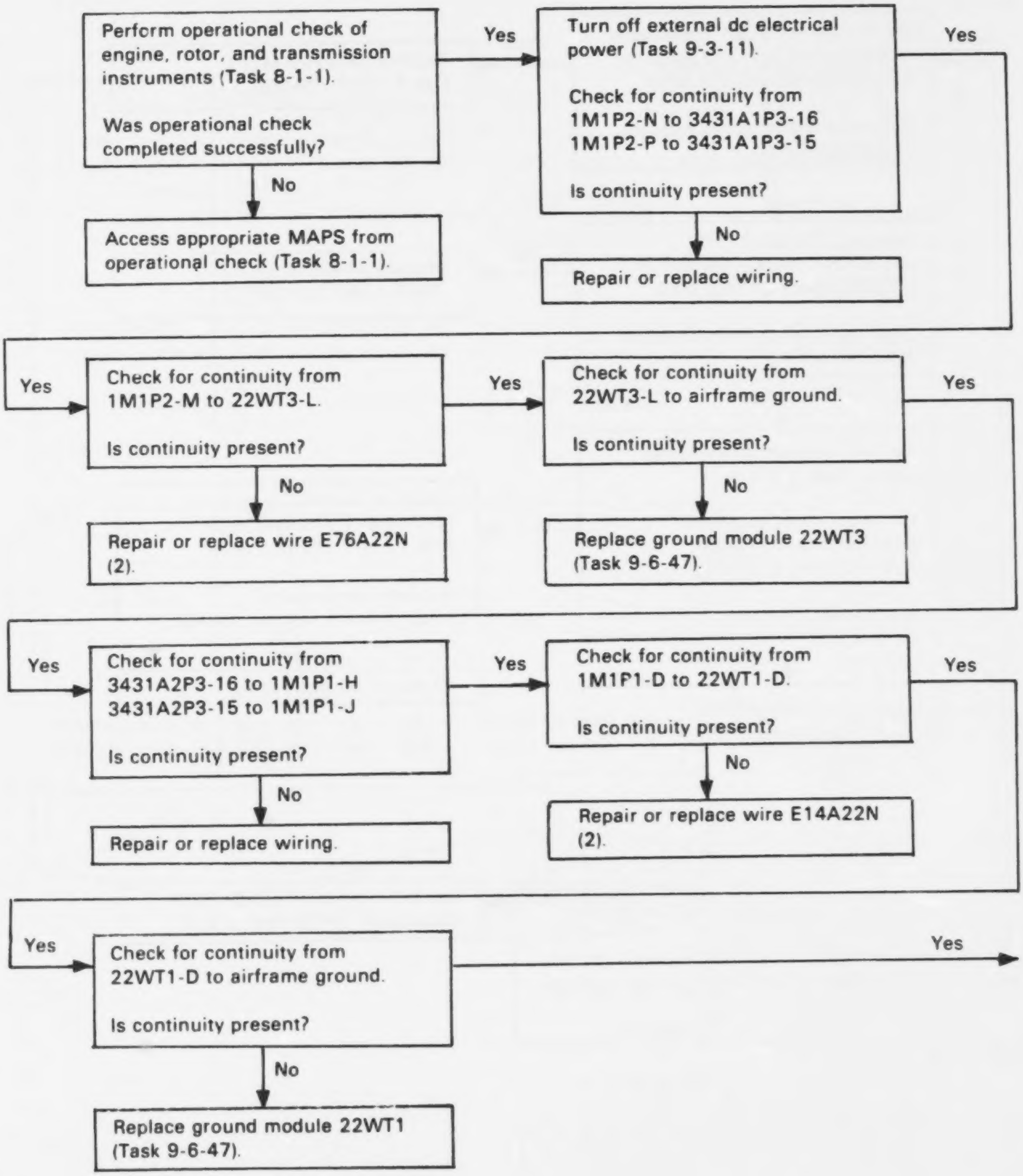
406475-230-1A

129. ROTOR NR RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


XMSN DISC
1J7
1P7
1MT2P1
J1
1MT2
LOWER MAST TRQ XDCR
D13B22 (2)
14
D13D22 (2)
A 28 VDC
C SPARE
①
20
F SHIELD
D16A22 (6) WHT
22
D16C22 (6) WHT
D (+) OUT
D16A22 (6) BLU
21
D16C22 (6) BLU
E (-) OUT
D17B22N (2)
13
D17A22N (2)
B 28V RET
P
3431A1P4
J4
3431A1
MCPU, LEFT
D23A24 (6) WHT
28 MAST TRQ BITE COMMAND
D23A24 (6) BLU
19 SWITCH RETURN
②
3431A1P5
J5
D25A24 (6) WHT
89 ROTOR TACH-LEFT HI
D25A24 (6) BLU
90 ROTOR TACH-LEFT LO
D24B24 (6) WHT
40 MAST TORQUE HI
D24B24 (6) BLU
41 MAST TORQUE LO
9TB1
D24B24 (6) WHT
MR
MS
D24A24 (6) WHT
MN
D24C24 (6) WHT
MP
③
D24B24 (6) BLU
MY
MZ
D24A24 (6) BLU
MT
D24C24 (6) BLU
MW
1M1
J3
MPD
1M1P3
MFD BKUP NO. 1
8
E43A24 (3)
MFD BKUP NO. 2
9
E44A24 (3)
3431A3P4
J4
3431A3
KEYBOARD
68 INSTRUMENT BACK UP
102 SW RETURN-VSI BACKUP SW

406475-230-2A

130. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).

Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

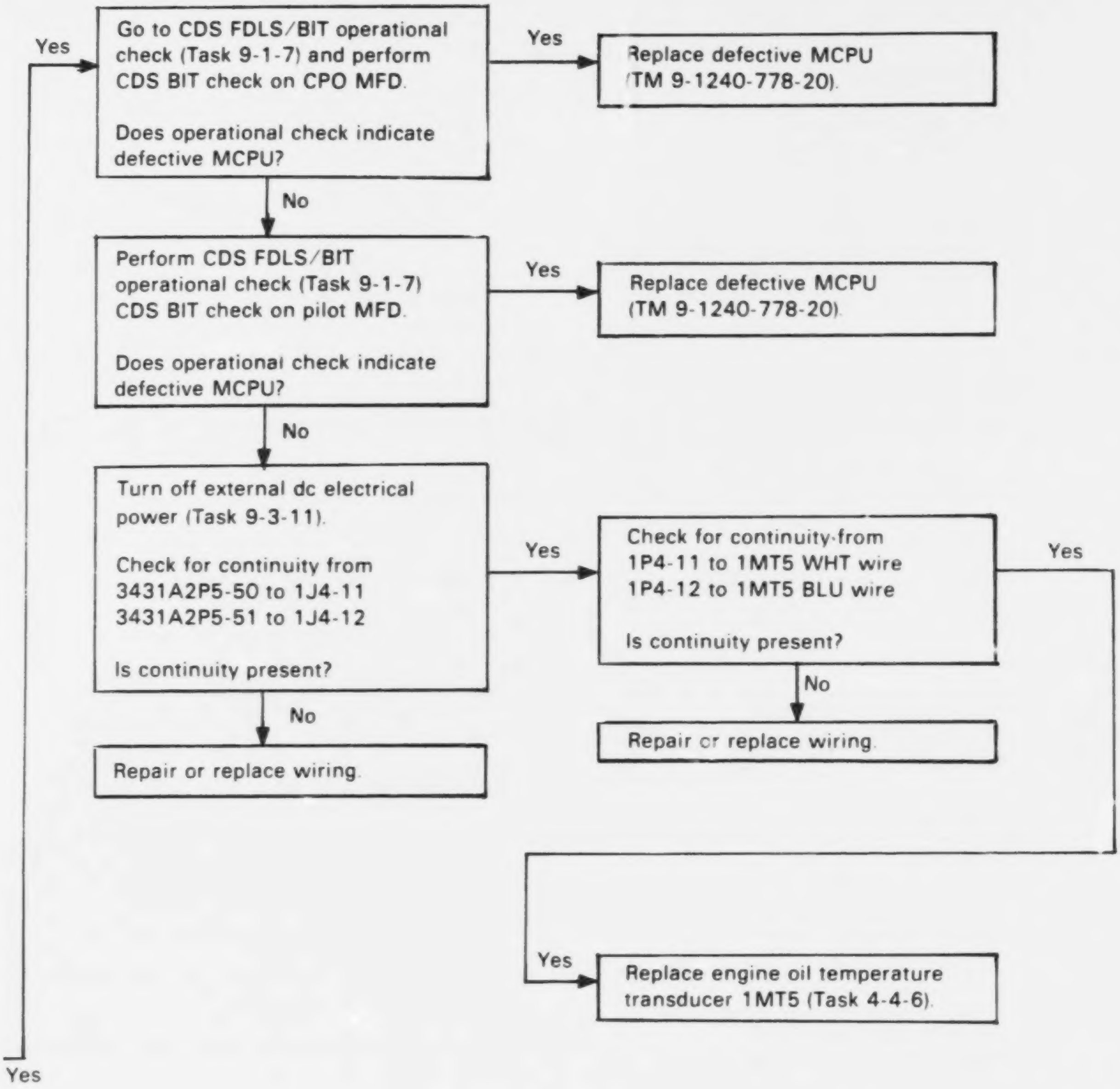
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

130. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A2P5-50 to 1J4-11
3431A2P5-51 to 1J4-12

Is continuity present?

Check for continuity from
1P4-11 to 1MT5 WHT wire
1P4-12 to 1MT5 BLU wire

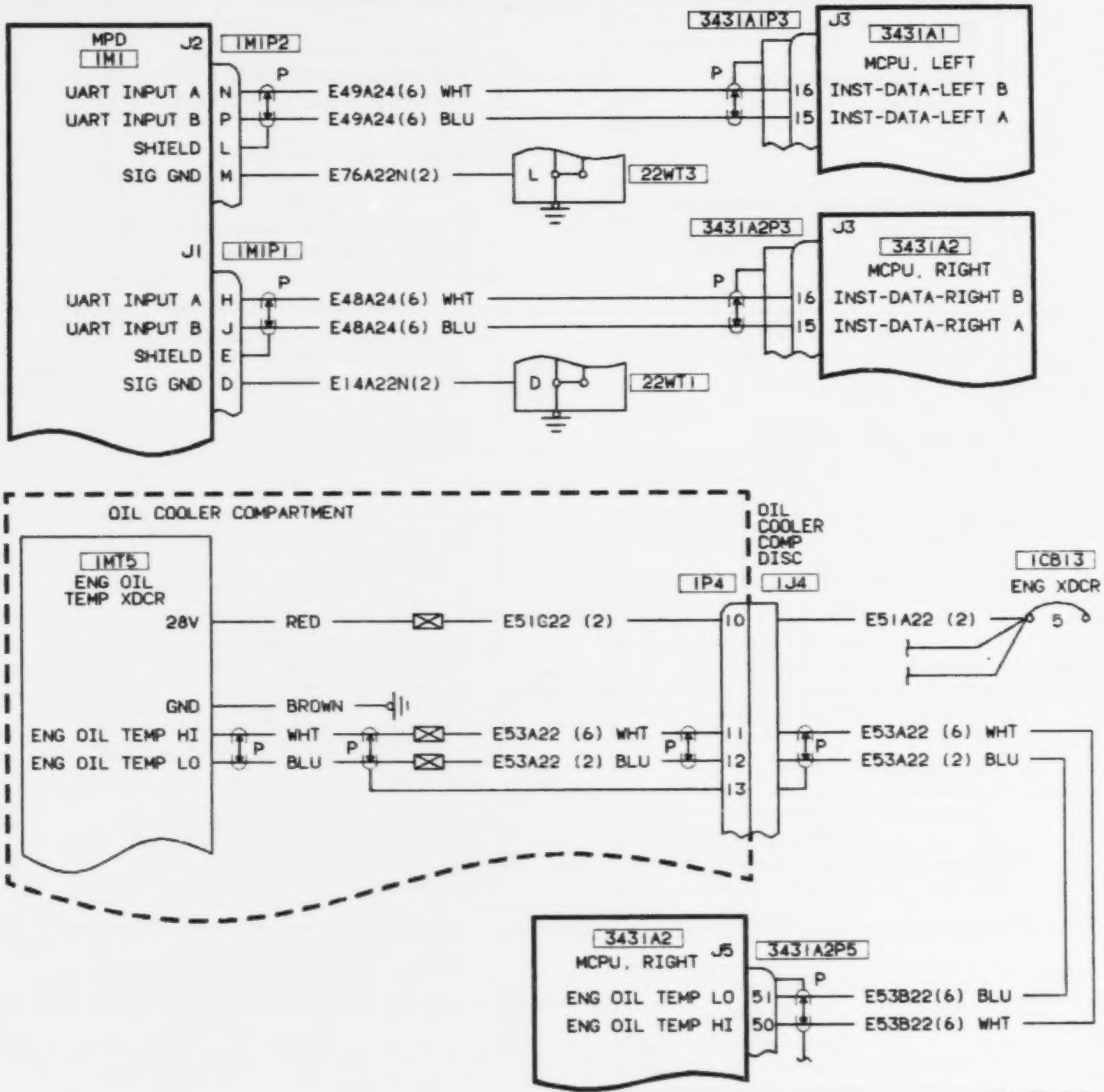
Is continuity present?

Repair or replace wiring.

Repair or replace wiring.

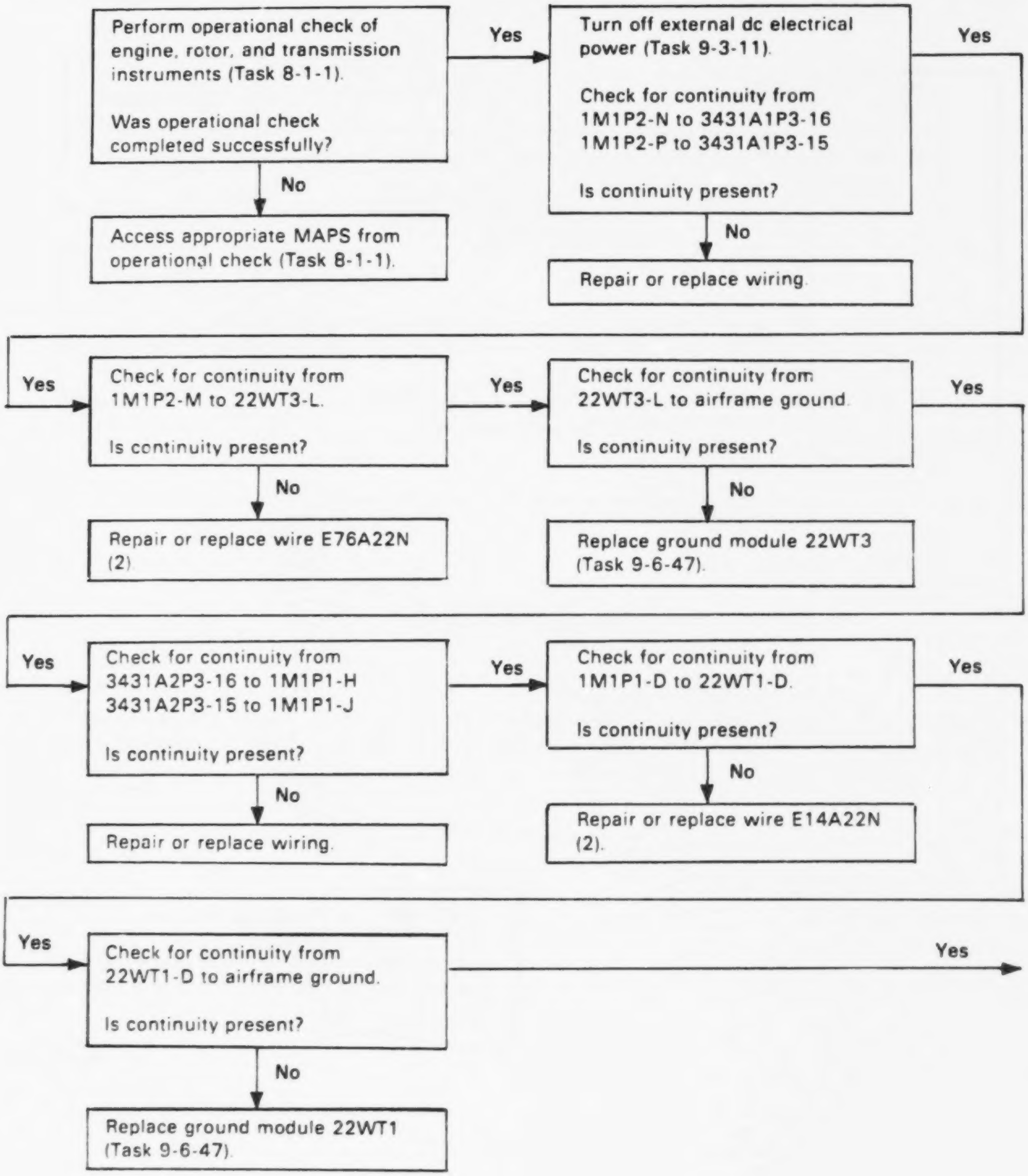
Replace engine oil temperature transducer 1MT5 (Task 4-4-6).

130. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

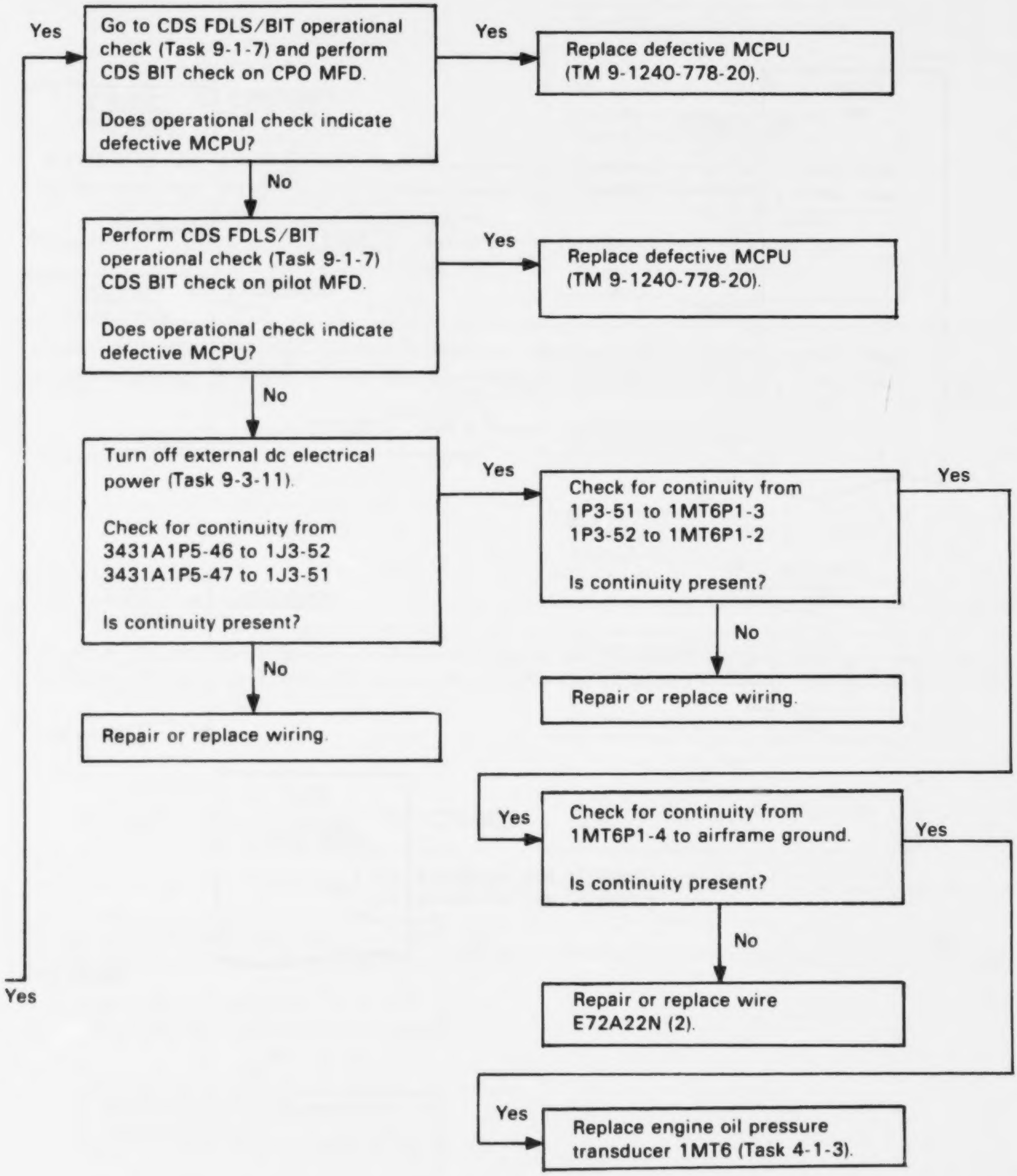

MPD
1M1
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
OIL COOLER COMPARTMENT
1MT5
ENG OIL TEMP XDCR
28V
GND
ENG OIL TEMP HI
ENG OIL TEMP LO
RED
BROWN
WHT
BLU
E51G22 (2)
E53A22 (6) WHT
E53A22 (2) BLU
OIL COOLER COMP DISC
1P4
1J4
10
11
12
13
E51A22 (2)
E53A22 (6) WHT
E53A22 (2) BLU
1CB13
ENG XDCR
5
3431A2
MCPU, RIGHT
J5
3431A2P5
ENG OIL TEMP LO
ENG OIL TEMP HI
51
50
E53B22(6) BLU
E53B22(6) WHT

406475-218A

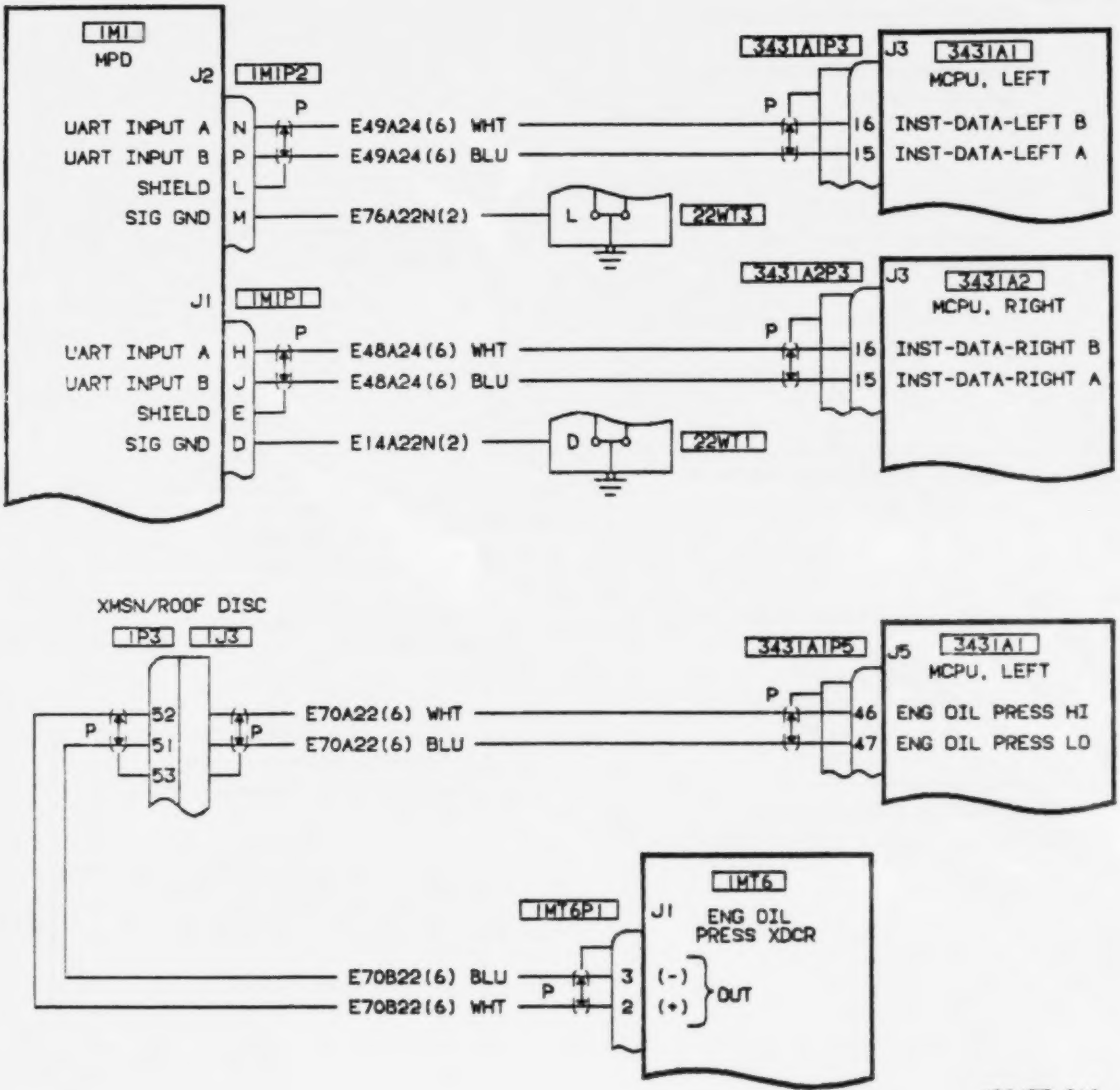
131. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1). Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11). Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15 Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L. Is continuity present?
No
Repair or replace wire E76A22N (2).
Yes
Check for continuity from 22WT3-L to airframe ground. Is continuity present?
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J Is continuity present?
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P1-D to 22WT1-D. Is continuity present?
No
Repair or replace wire E14A22N (2).
Yes
Yes
Check for continuity from 22WT1-D to airframe ground. Is continuity present?
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

131. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

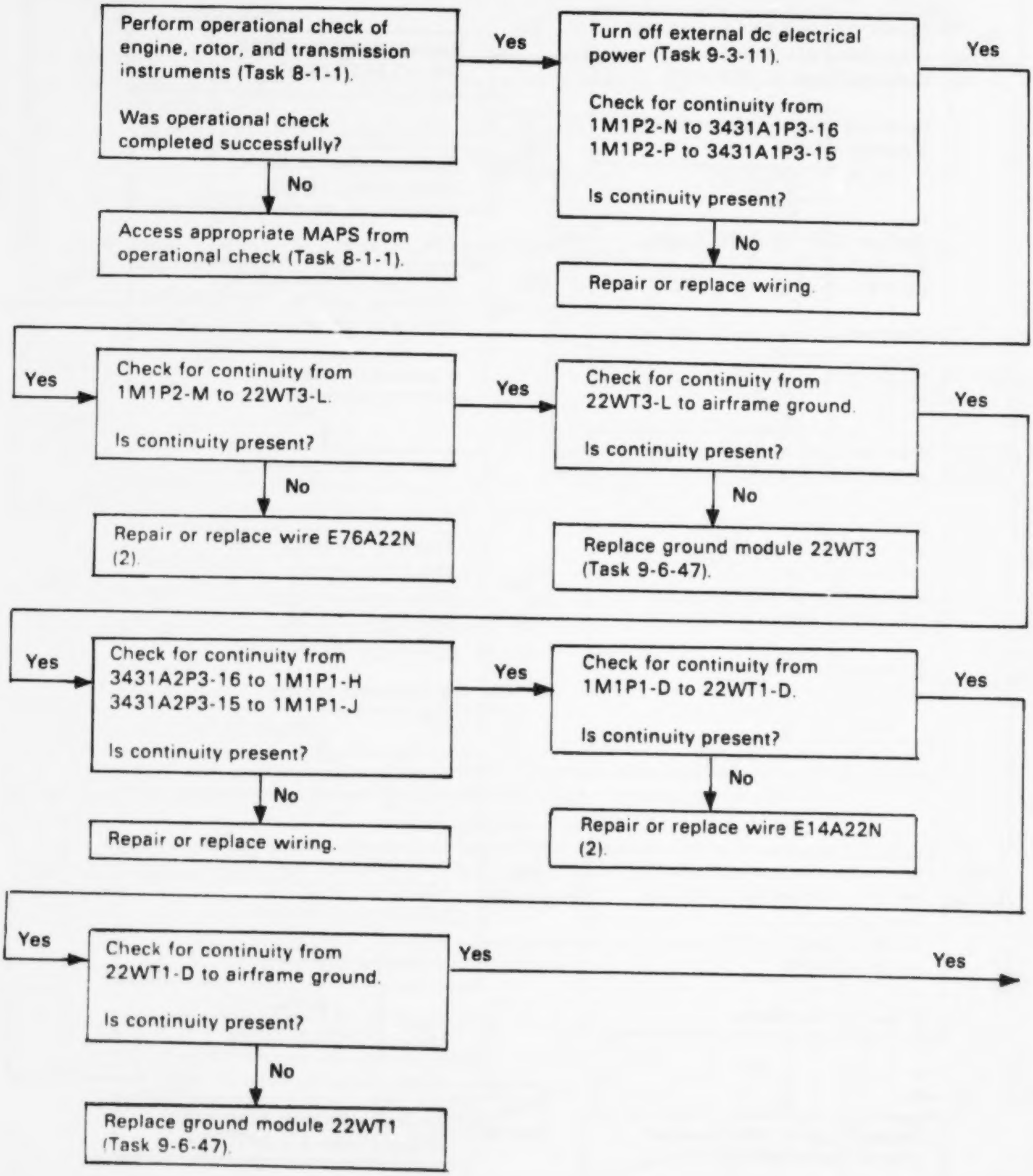

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3431A1P5-46 to 1J3-52 3431A1P5-47 to 1J3-51
Is continuity present?
Yes
Check for continuity from 1P3-51 to 1MT6P1-3 1P3-52 to 1MT6P1-2
Is continuity present?
Yes
No
Repair or replace wiring.
No
Repair or replace wiring.
Yes
Check for continuity from 1MT6P1-4 to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire E72A22N (2).
Yes
Replace engine oil pressure transducer 1MT6 (Task 4-1-3).
Yes

131. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

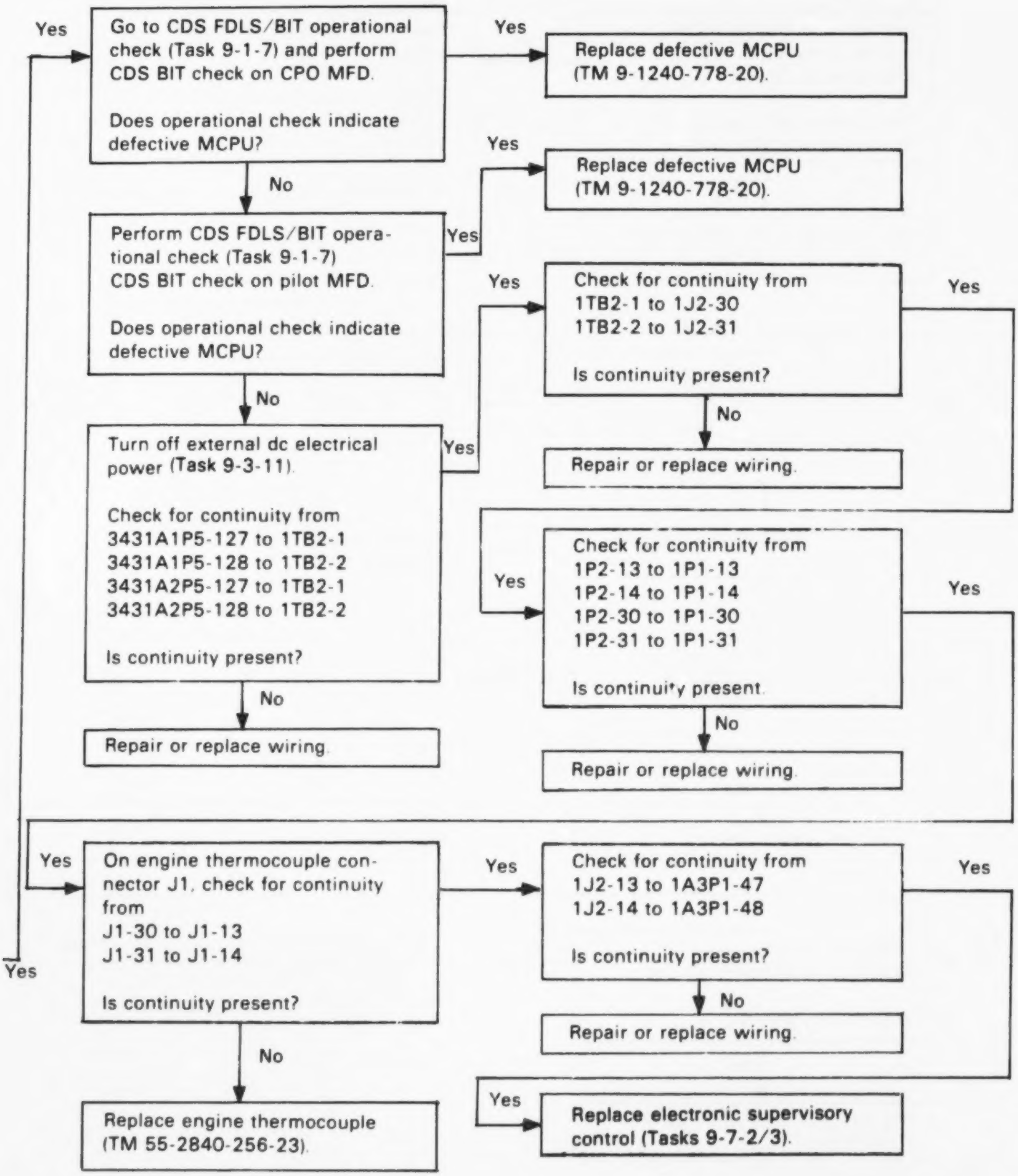

1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
INST-DATA-RIGHT B
INST-DATA-RIGHT A
XMSN/ROOF DISC
1P3
1J3
52
51
53
E70A22(6) WHT
E70A22(6) BLU
3431A1P5
J5
3431A1
MCPU, LEFT
46
47
ENG OIL PRESS HI
ENG OIL PRESS LO
1MT6
1MT6P1
J1
ENG OIL PRESS XDCR
E70B22(6) BLU
E70B22(6) WHT
3
2
(-)
(+)
OUT

406475-216

132. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15
Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
Yes
No
Repair or replace wire E76A22N (2).
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
Yes
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J
Is continuity present?
Yes
No
Repair or replace wiring.
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
Yes
No
Repair or replace wire E14A22N (2).
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

132. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P5-127 to 1TB2-1
3431A1P5-128 to 1TB2-2
3431A2P5-127 to 1TB2-1
3431A2P5-128 to 1TB2-2

Is continuity present?

Repair or replace wiring.

Check for continuity from
1TB2-1 to 1J2-30
1TB2-2 to 1J2-31

Is continuity present?

Repair or replace wiring.

Check for continuity from
1P2-13 to 1P1-13
1P2-14 to 1P1-14
1P2-30 to 1P1-30
1P2-31 to 1P1-31

Is continuity present.

Repair or replace wiring.

On engine thermocouple connector J1, check for continuity from
J1-30 to J1-13
J1-31 to J1-14

Is continuity present?

Replace engine thermocouple (TM 55-2840-256-23).

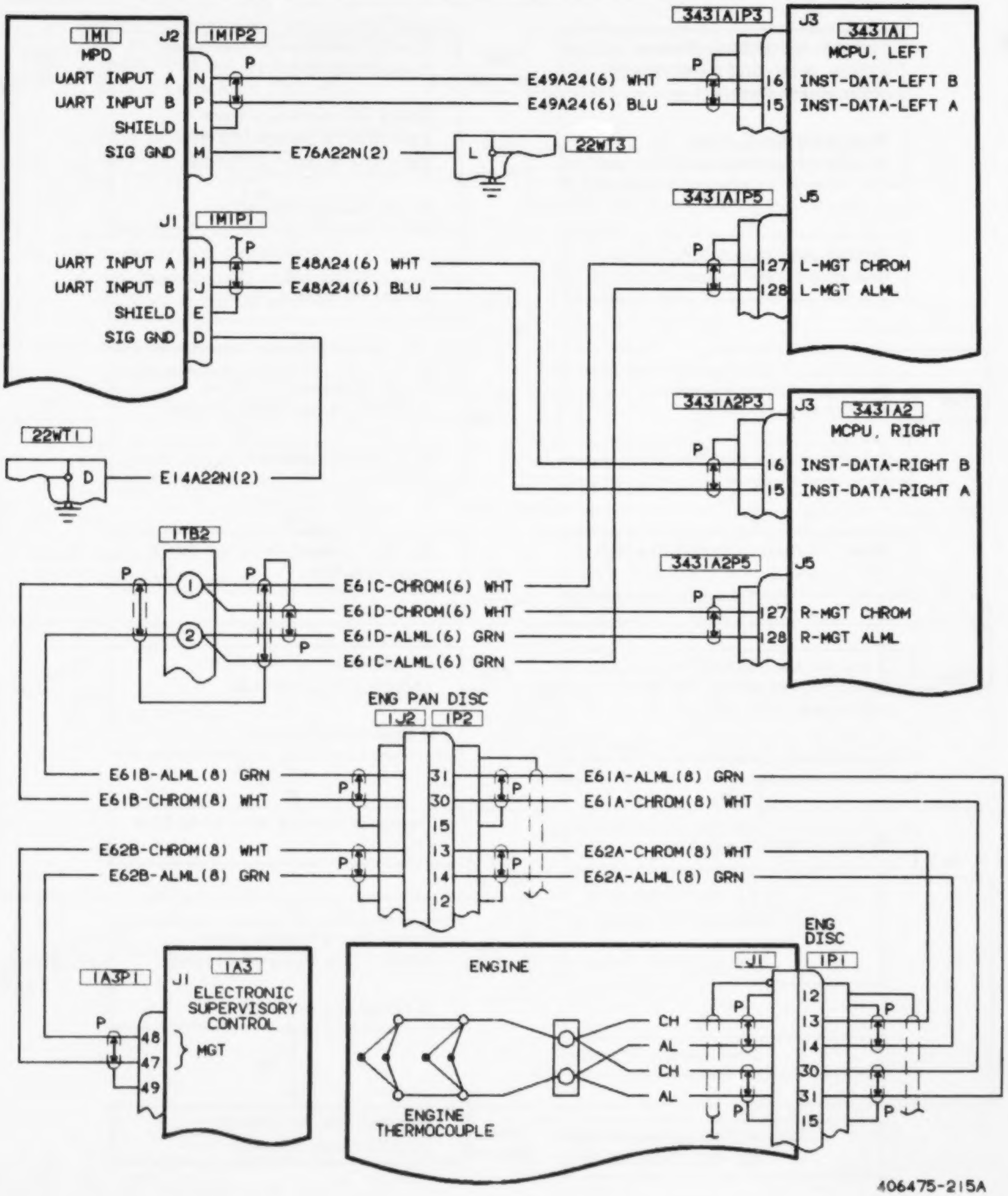
Check for continuity from
1J2-13 to 1A3P1-47
1J2-14 to 1A3P1-48

Is continuity present?

Repair or replace wiring.

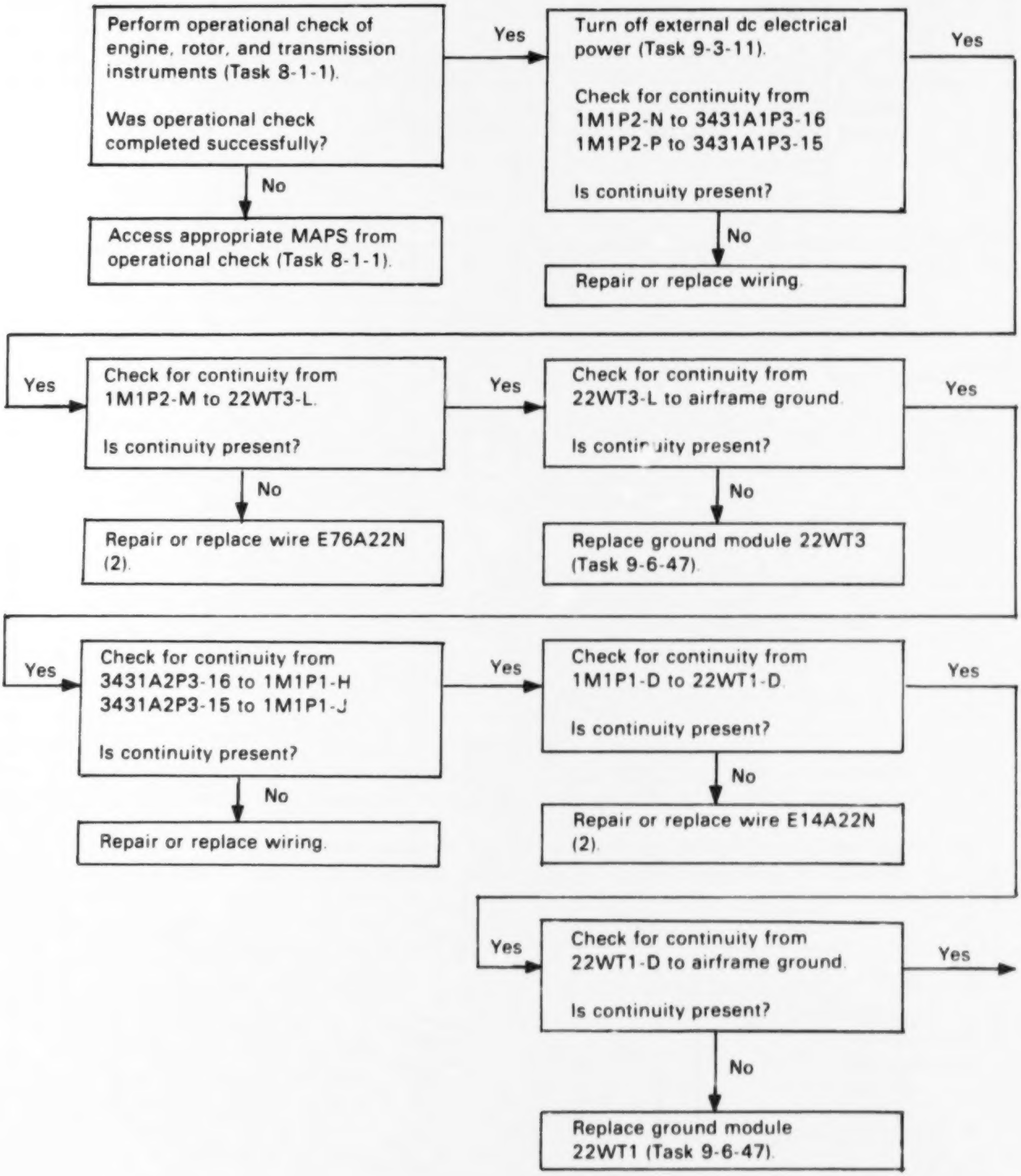
Replace electronic supervisory control (Tasks 9-7-2/3).

132. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
22WT1
D
E14A22N(2)
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
3431A1P5
J5
127
128
L-MGT CHROM
L-MGT ALML
3431A2P3
J3
3431A2
MCPU, RIGHT
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
3431A2P5
J5
127
128
R-MGT CHROM
R-MGT ALML
1TB2
1
2
E61C-CHROM(6) WHT
E61D-CHROM(6) WHT
E61D-ALML(6) GRN
E61C-ALML(6) GRN
ENG PAN DISC
1J2
1P2
E61B-ALML(8) GRN
E61B-CHROM(8) WHT
E62B-CHROM(8) WHT
E62B-ALML(8) GRN
31
30
15
13
14
12
E61A-ALML(8) GRN
E61A-CHROM(8) WHT
E62A-CHROM(8) WHT
E62A-ALML(8) GRN
1A3P1
J1
1A3
ELECTRONIC SUPERVISORY CONTROL
48
47
49
MGT
ENGINE
ENGINE THERMOCOUPLE
CH
AL
CH
AL
ENG DISC
J1
1P1
12
13
14
30
31
15
P

406475-215A

133. ENGINE NP RPM INDICATOR (DIGITAL ON MPD DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).

Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

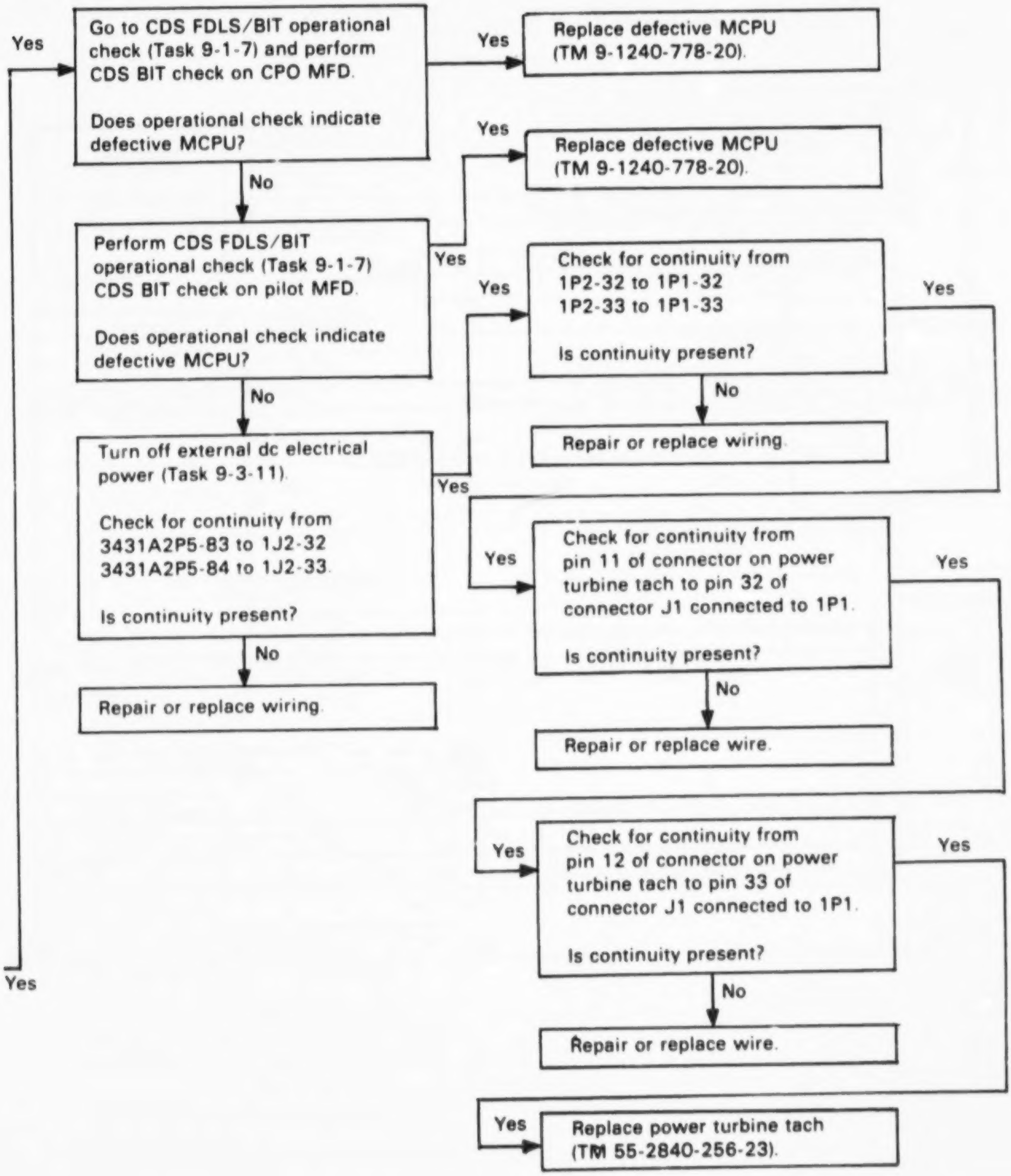
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

133. ENGINE NP RPM INDICATOR (DIGITAL ON MPD DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A2P5-83 to 1J2-32 3431A2P5-84 to 1J2-33.

Is continuity present?

Repair or replace wiring.

Check for continuity from 1P2-32 to 1P1-32 1P2-33 to 1P1-33

Is continuity present?

Repair or replace wiring.

Check for continuity from pin 11 of connector on power turbine tach to pin 32 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

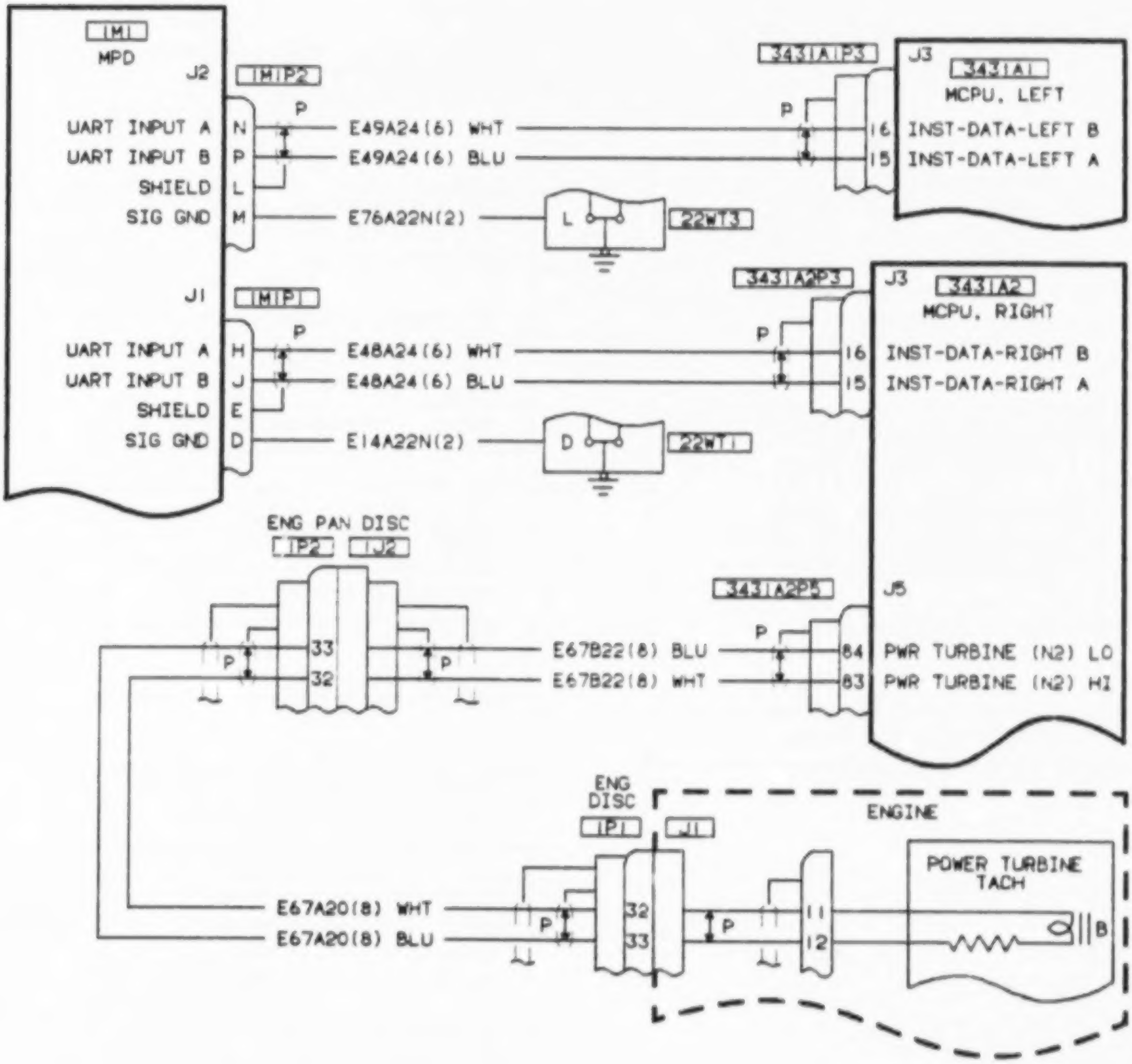
Check for continuity from pin 12 of connector on power turbine tach to pin 33 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

Replace power turbine tach (TM 55-2840-256-23).

133. ENGINE NP RPM INDICATOR (DIGITAL ON MPD DOES NOT INDICATE APPROXIMATELY 62% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
33
32
E67B22(8) BLU
E67B22(8) WHT
3431A2P5
J5
84
83
PWR TURBINE (N2) LO
PWR TURBINE (N2) HI
ENG DISC
1P1
J1
ENGINE
E67A20(8) WHT
E67A20(8) BLU
32
33
11
12
POWER TURBINE TACH
B

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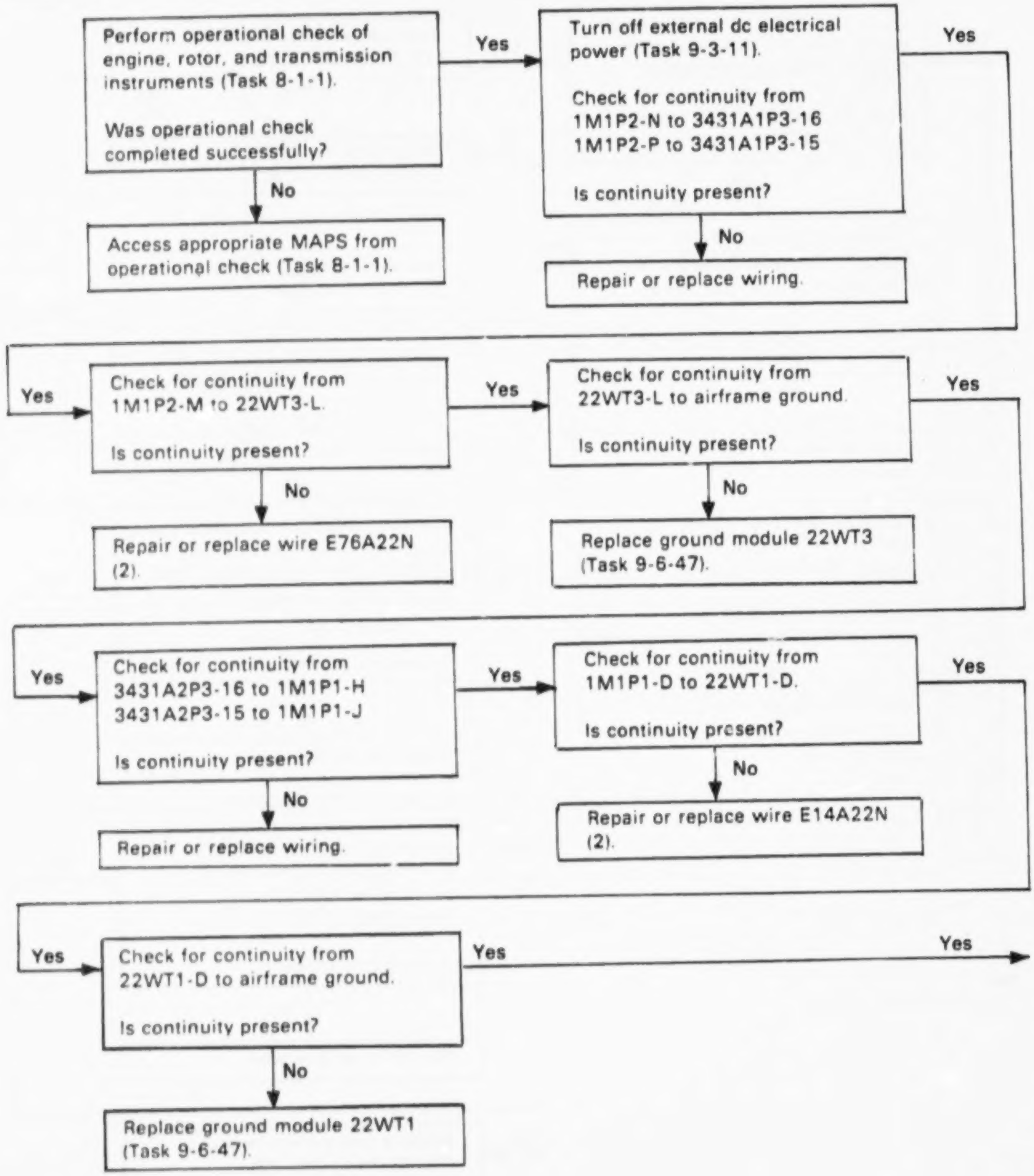
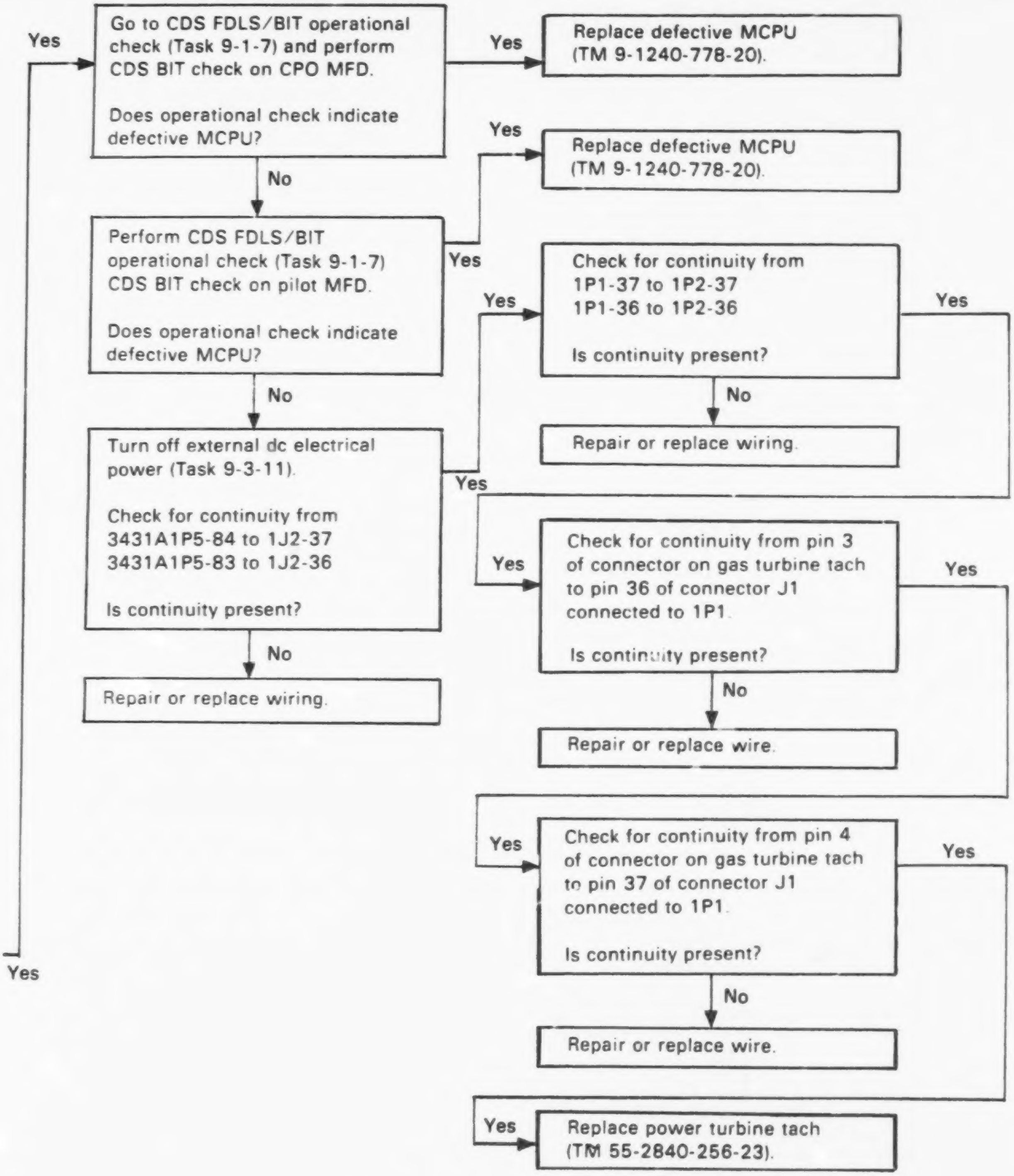
134. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15
Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
No
Repair or replace wire E76A22N (2).
Yes
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Yes
Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J
Is continuity present?
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
No
Repair or replace wire E14A22N (2).
Yes
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

134. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A1P5-84 to 1J2-37 3431A1P5-83 to 1J2-36

Is continuity present?

Repair or replace wiring.

Check for continuity from 1P1-37 to 1P2-37 1P1-36 to 1P2-36

Is continuity present?

Repair or replace wiring.

Check for continuity from pin 3 of connector on gas turbine tach to pin 36 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

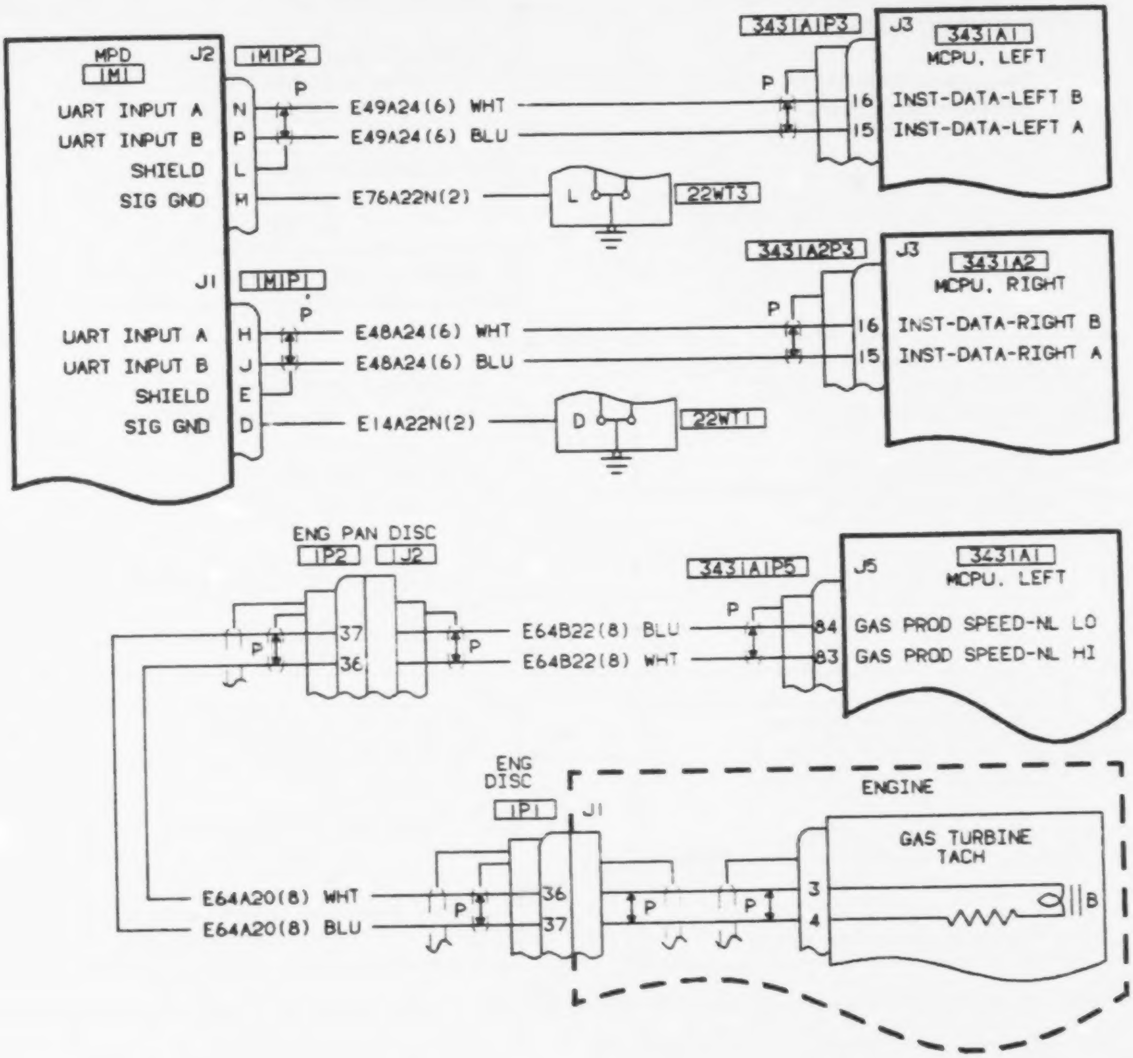
Check for continuity from pin 4 of connector on gas turbine tach to pin 37 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

Replace power turbine tach (TM 55-2840-256-23).

134. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 64% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


MPD
1M1
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
37
36
E64B22(8) BLU
E64B22(8) WHT
3431A1P5
J5
3431A1
MCPU, LEFT
84
83
GAS PROD SPEED-NL LO
GAS PROD SPEED-NL HI
ENG DISC
1P1
J1
ENGINE
GAS TURBINE TACH
E64A20(8) WHT
E64A20(8) BLU
3
4
B

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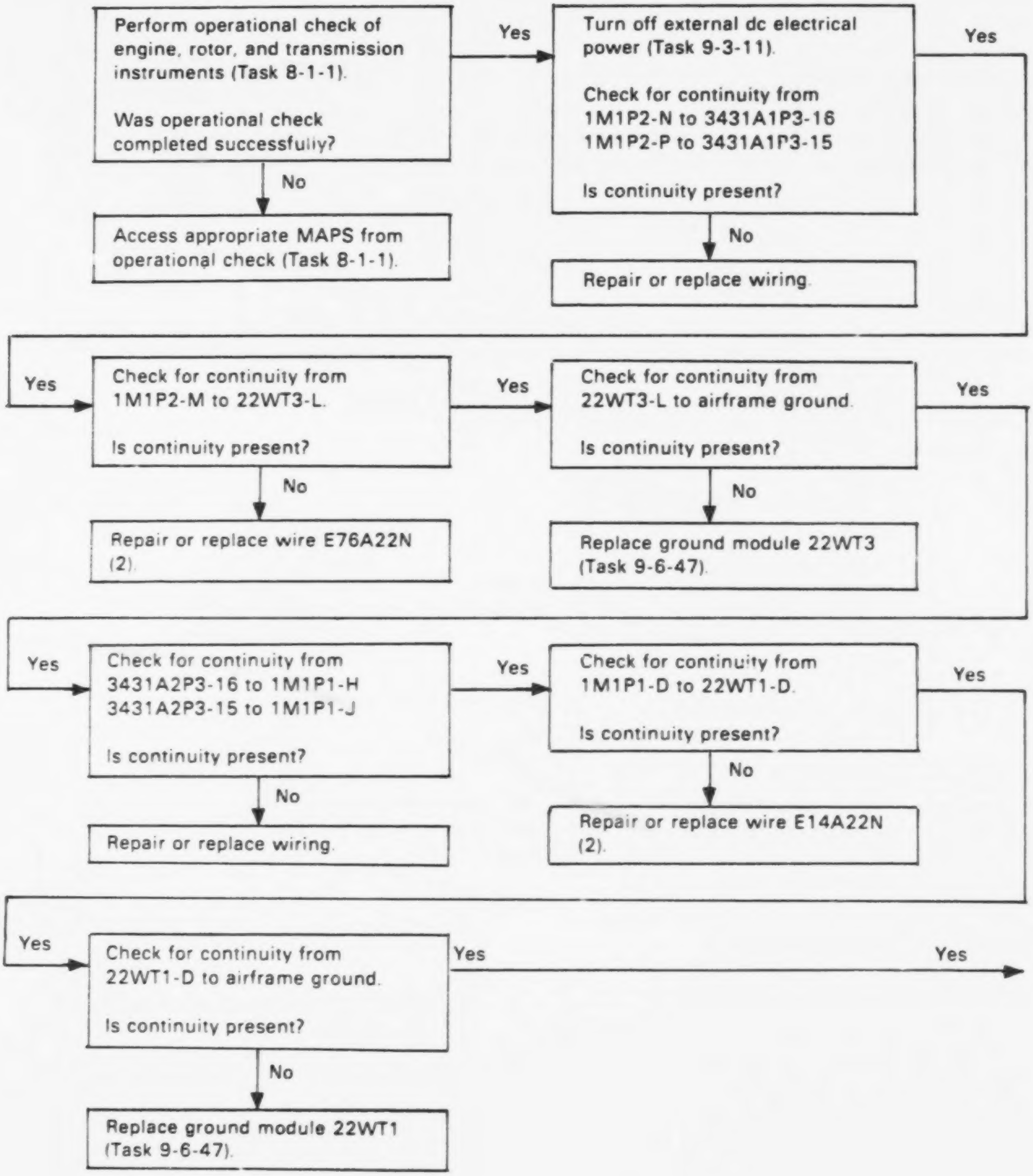
135. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 8% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).

Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

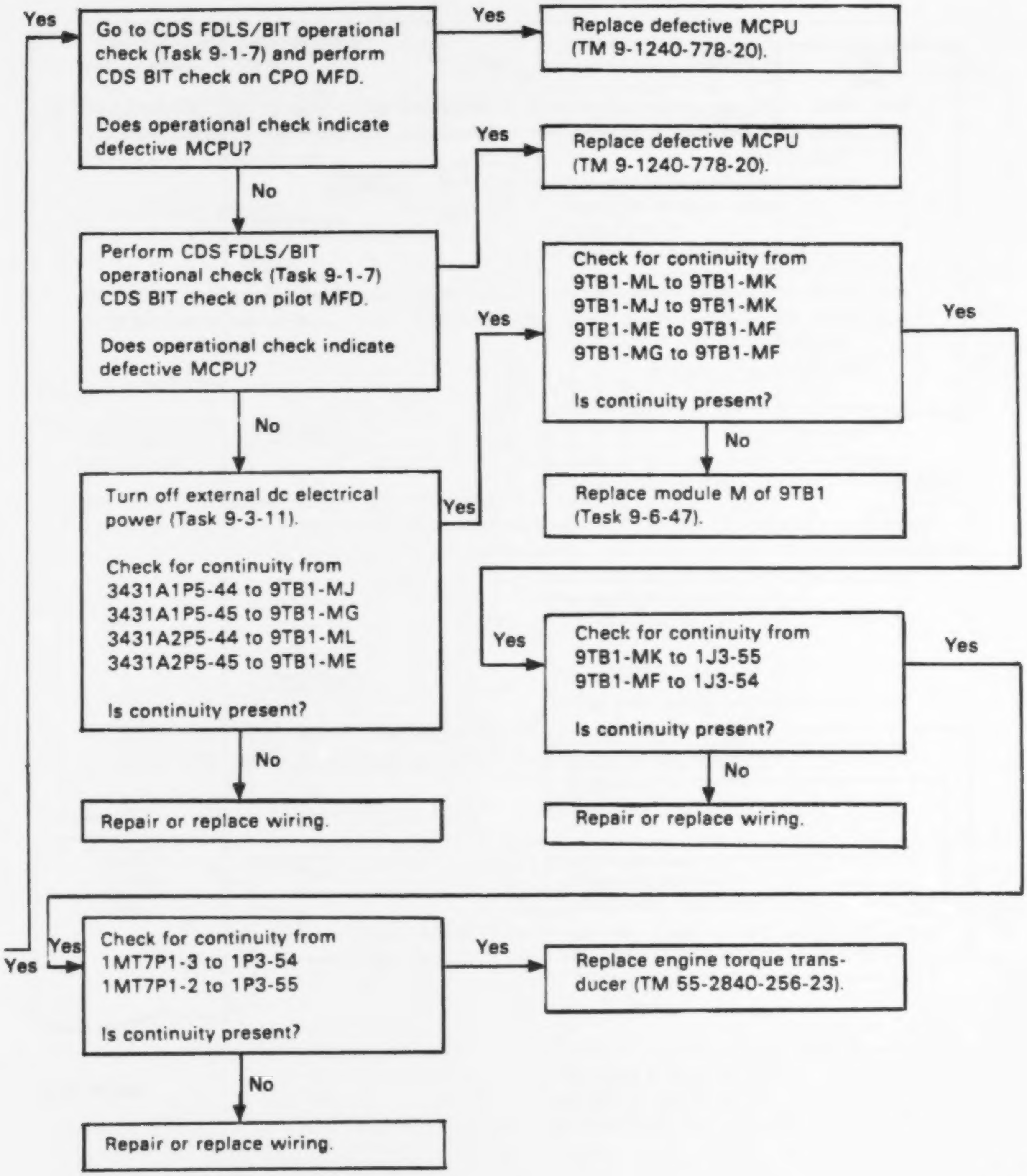
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

135. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 8% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P5-44 to 9TB1-MJ
3431A1P5-45 to 9TB1-MG
3431A2P5-44 to 9TB1-ML
3431A2P5-45 to 9TB1-ME

Is continuity present?

Repair or replace wiring.

Check for continuity from
9TB1-ML to 9TB1-MK
9TB1-MJ to 9TB1-MK
9TB1-ME to 9TB1-MF
9TB1-MG to 9TB1-MF

Is continuity present?

Replace module M of 9TB1 (Task 9-6-47).

Check for continuity from
9TB1-MK to 1J3-55
9TB1-MF to 1J3-54

Is continuity present?

Repair or replace wiring.

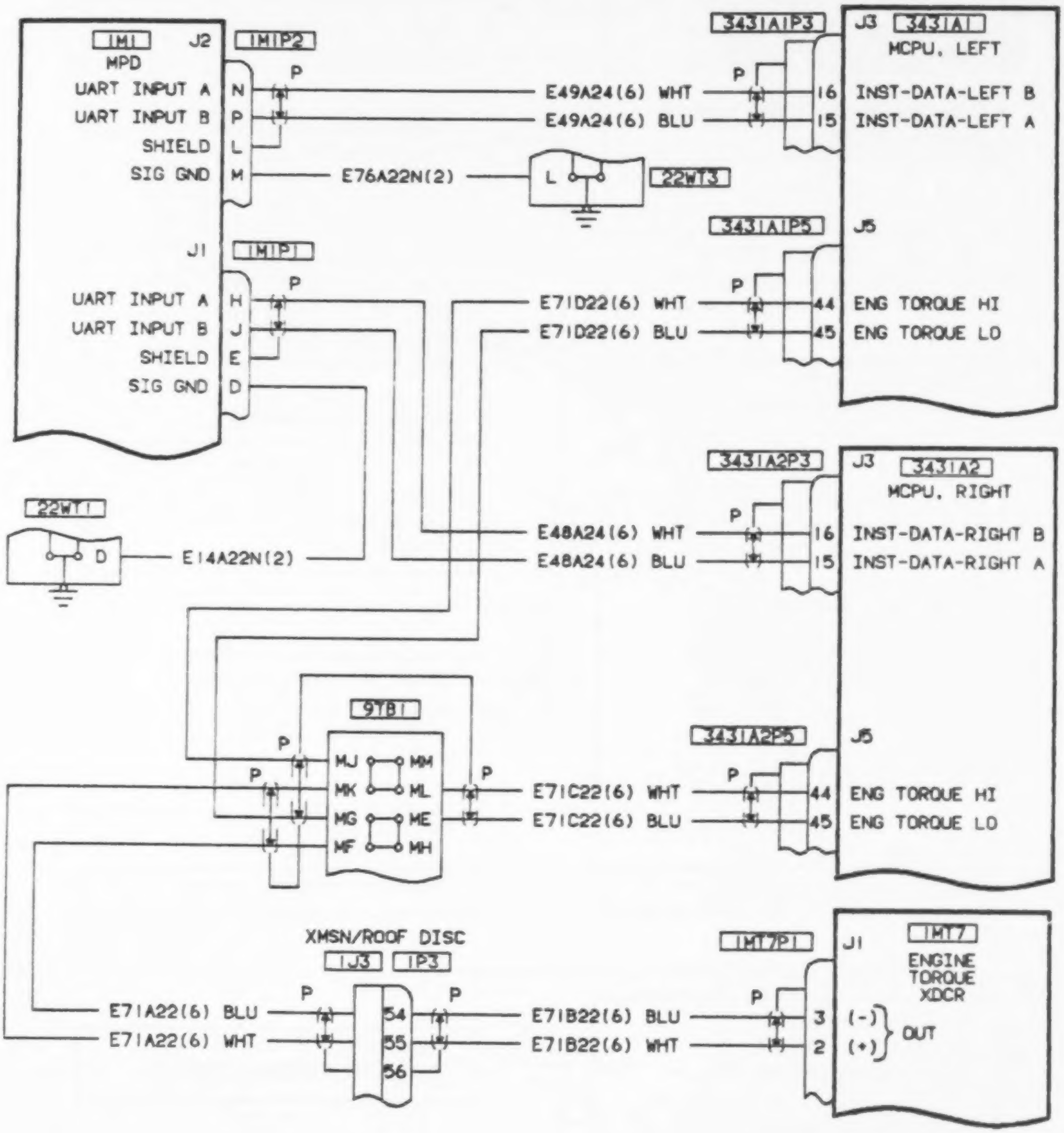
Check for continuity from
1MT7P1-3 to 1P3-54
1MT7P1-2 to 1P3-55

Is continuity present?

Replace engine torque transducer (TM 55-2840-256-23).

Repair or replace wiring.

135. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 8% (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)


1M1
J2
1M1P2
MPD
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
3431A1P5
J5
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E71D22(6) WHT
E71D22(6) BLU
44
45
ENG TORQUE HI
ENG TORQUE LO
3431A2P3
J3
3431A2
MCPU, RIGHT
22WT1
D
E14A22N(2)
E48A24(6) WHT
E48A24(6) BLU
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
9TB1
MJ
MM
MK
ML
MG
ME
MF
MH
3431A2P5
J5
E71C22(6) WHT
E71C22(6) BLU
44
45
ENG TORQUE HI
ENG TORQUE LO
XMSN/ROOF DISC
1J3
1P3
E71A22(6) BLU
E71A22(6) WHT
54
55
56
E71B22(6) BLU
E71B22(6) WHT
1MT7P1
J1
1MT7
ENGINE TORQUE XDCR
3
2
(-)
(+)
OUT

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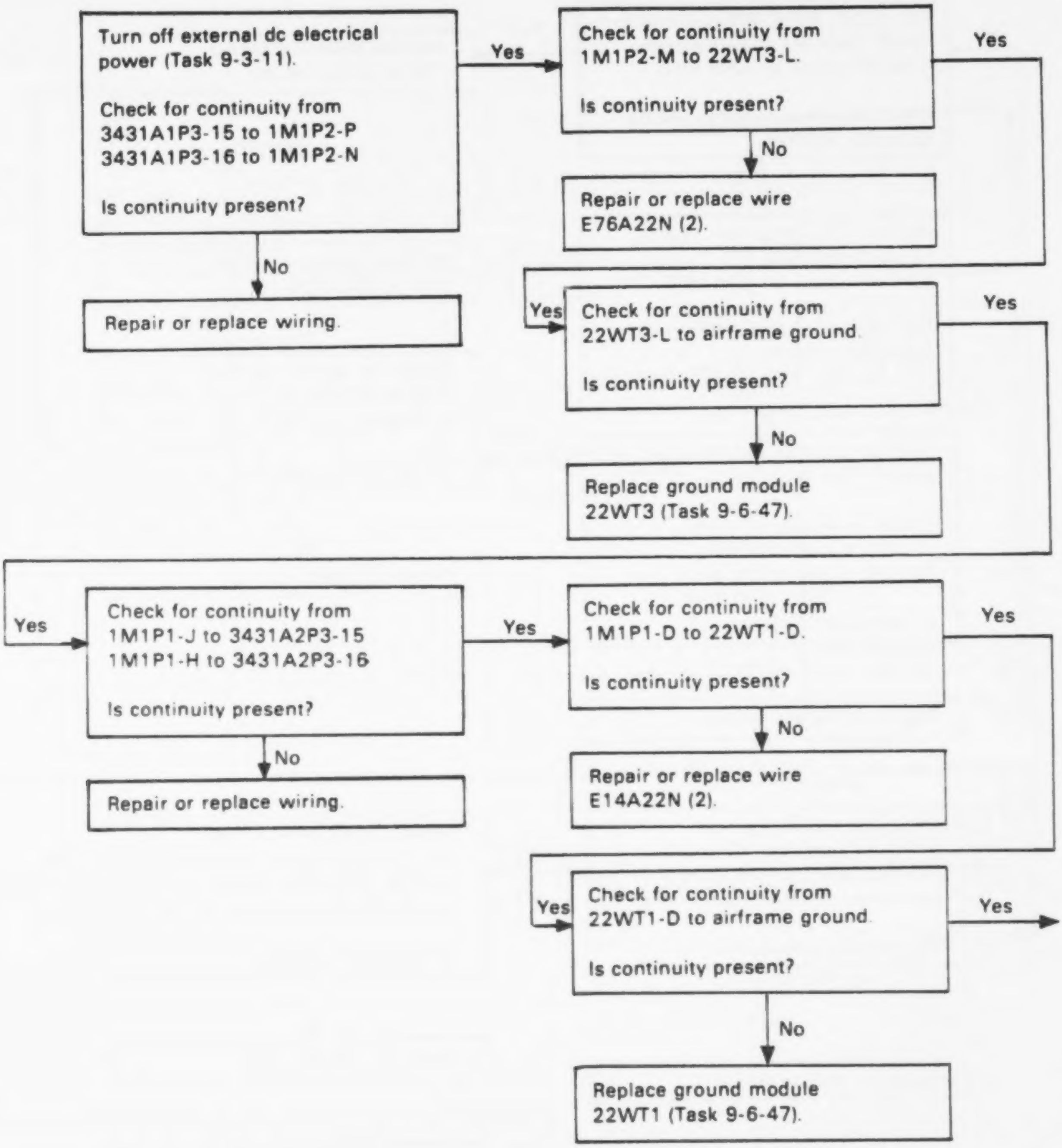
136. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P3-15 to 1M1P2-P
3431A1P3-16 to 1M1P2-N

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
1M1P1-J to 3431A2P3-15
1M1P1-H to 3431A2P3-16

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

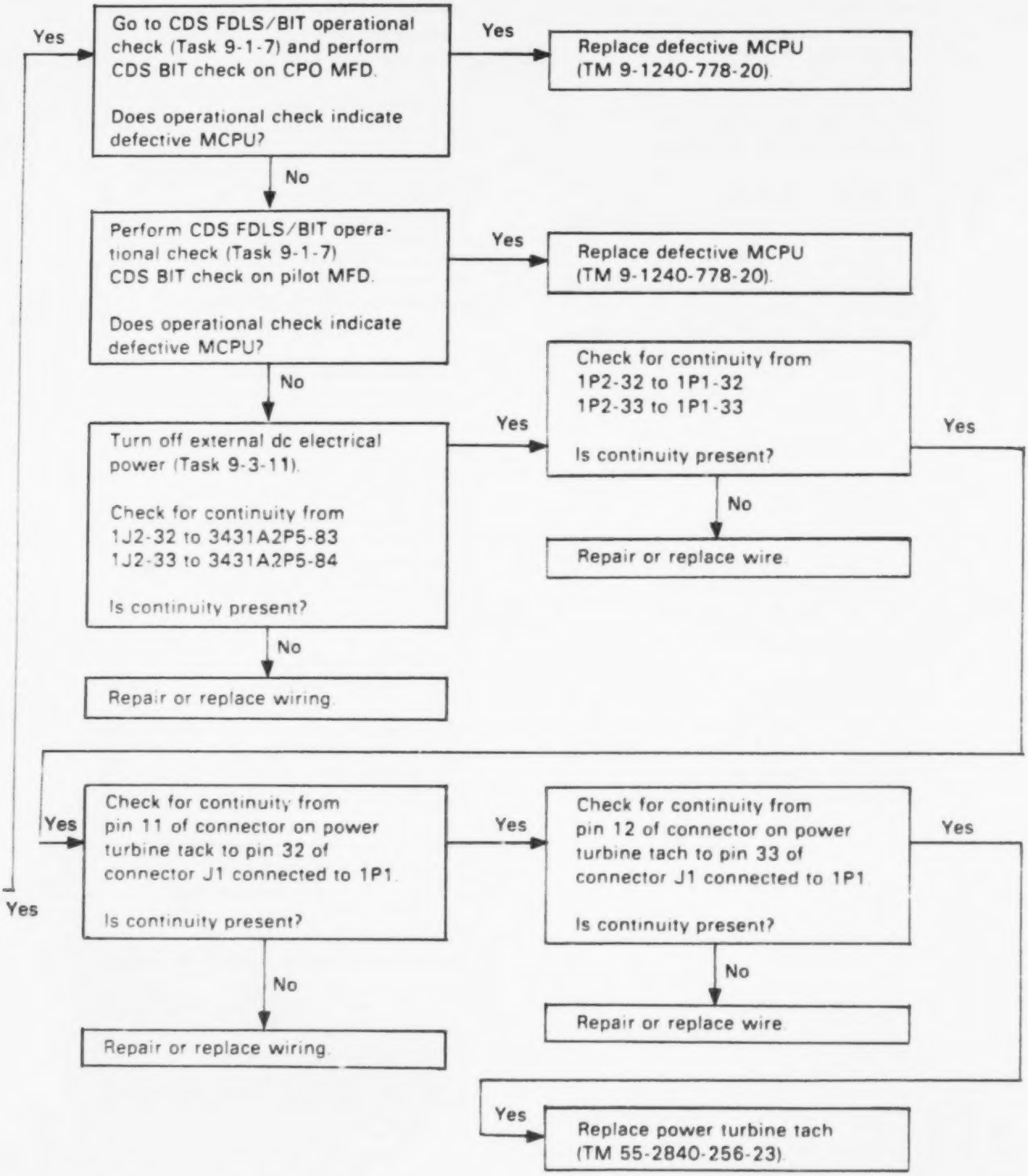
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

136. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1J2-32 to 3431A2P5-83
1J2-33 to 3431A2P5-84

Is continuity present?

Repair or replace wiring.

Check for continuity from
1P2-32 to 1P1-32
1P2-33 to 1P1-33

Is continuity present?

Repair or replace wire.

Check for continuity from pin 11 of connector on power turbine tack to pin 32 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wiring.

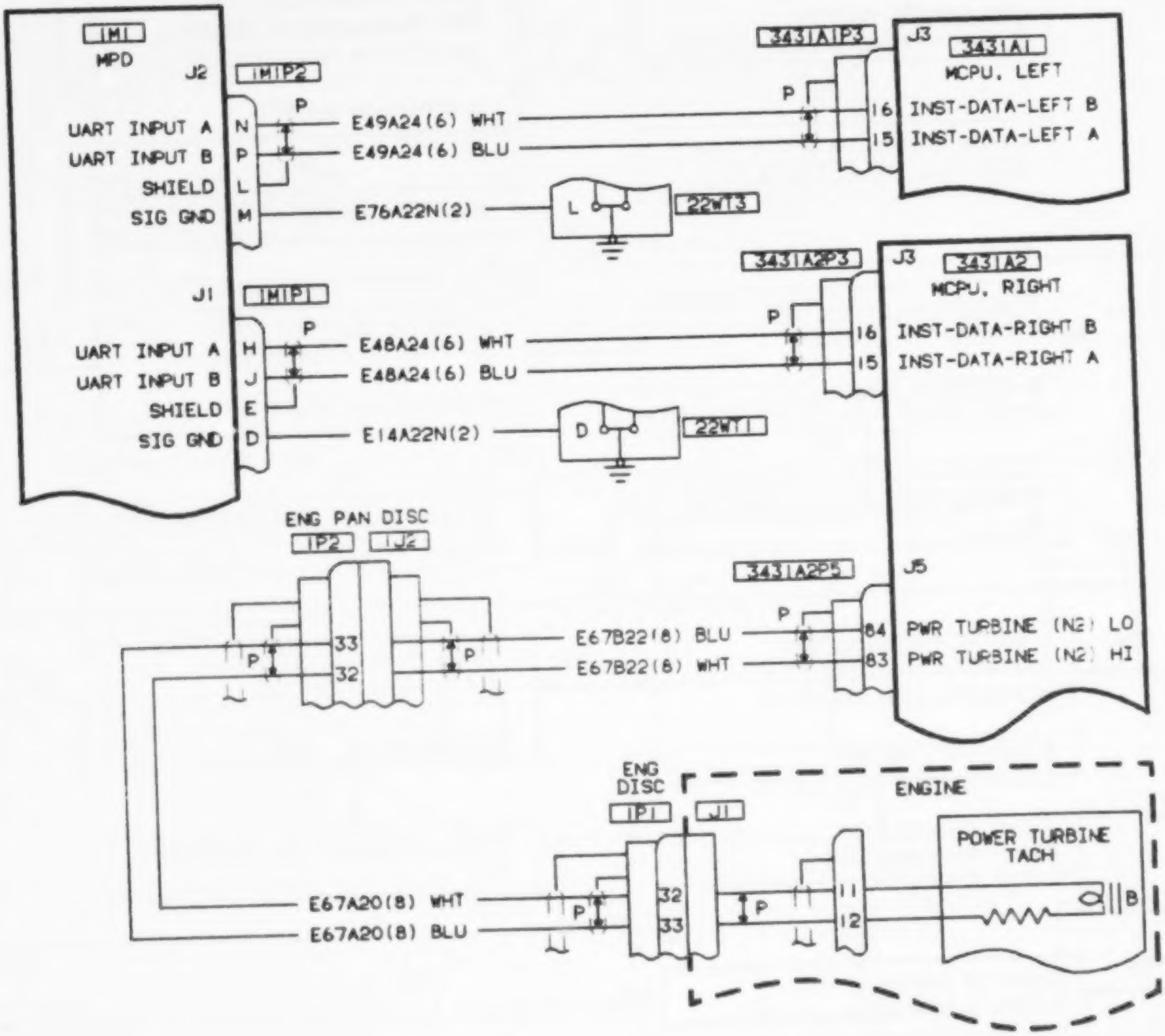
Check for continuity from pin 12 of connector on power turbine tach to pin 33 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

Replace power turbine tach (TM 55-2840-256-23).

136. ENGINE NP RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
P
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
P
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
P
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
33
32
P
P
E67B22(8) BLU
E67B22(8) WHT
3431A2P5
J5
P
84
83
PWR TURBINE (N2) LO
PWR TURBINE (N2) HI
ENG DISC
1P1
J1
ENGINE
E67A20(8) WHT
E67A20(8) BLU
P
32
33
P
11
12
POWER TURBINE TACH
B

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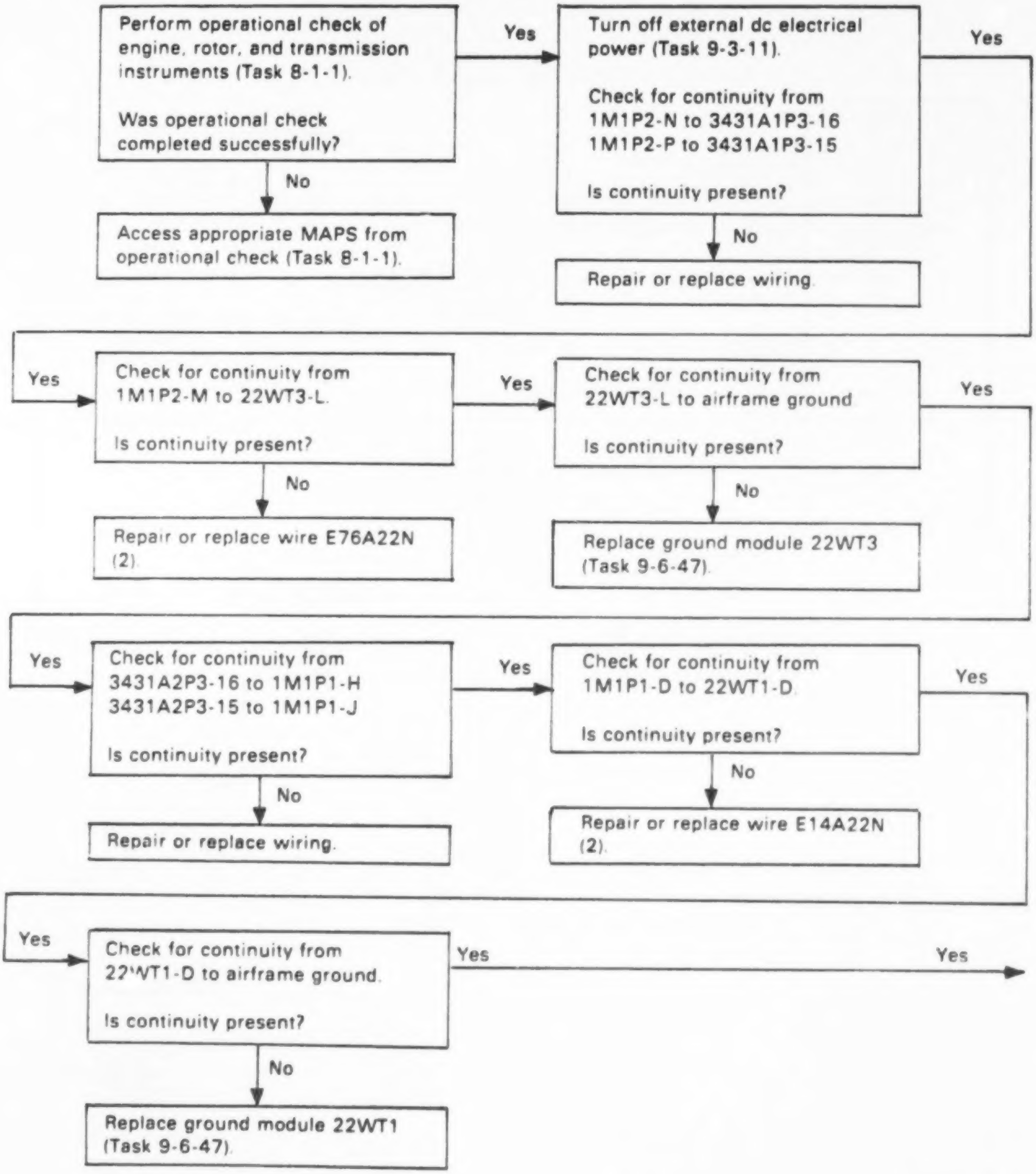
137. ENGINE NG RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 80% (HELICOPTER AT 100% RPM AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).

Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

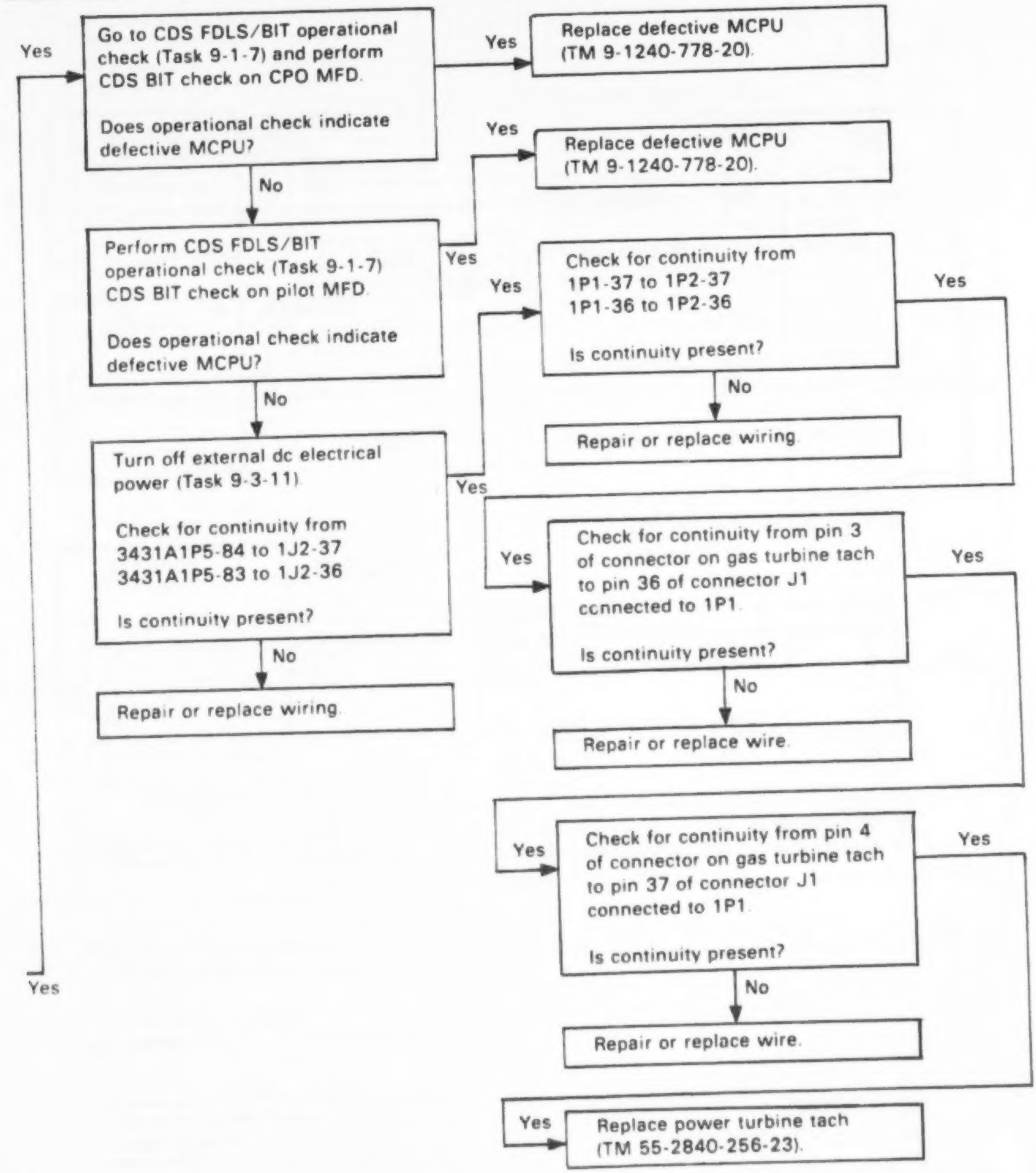
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

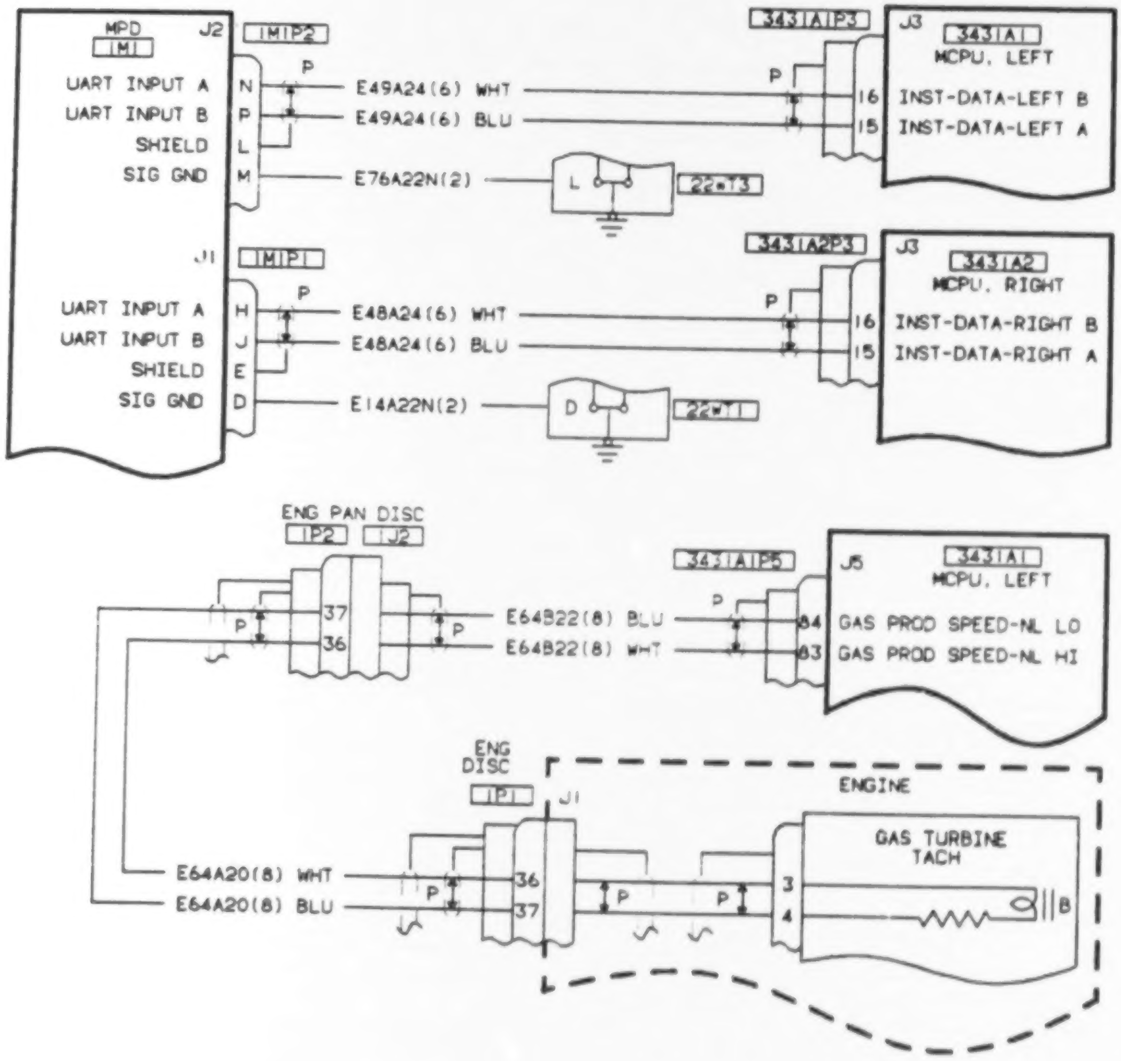
Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

137. ENGINE NG RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 80% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)

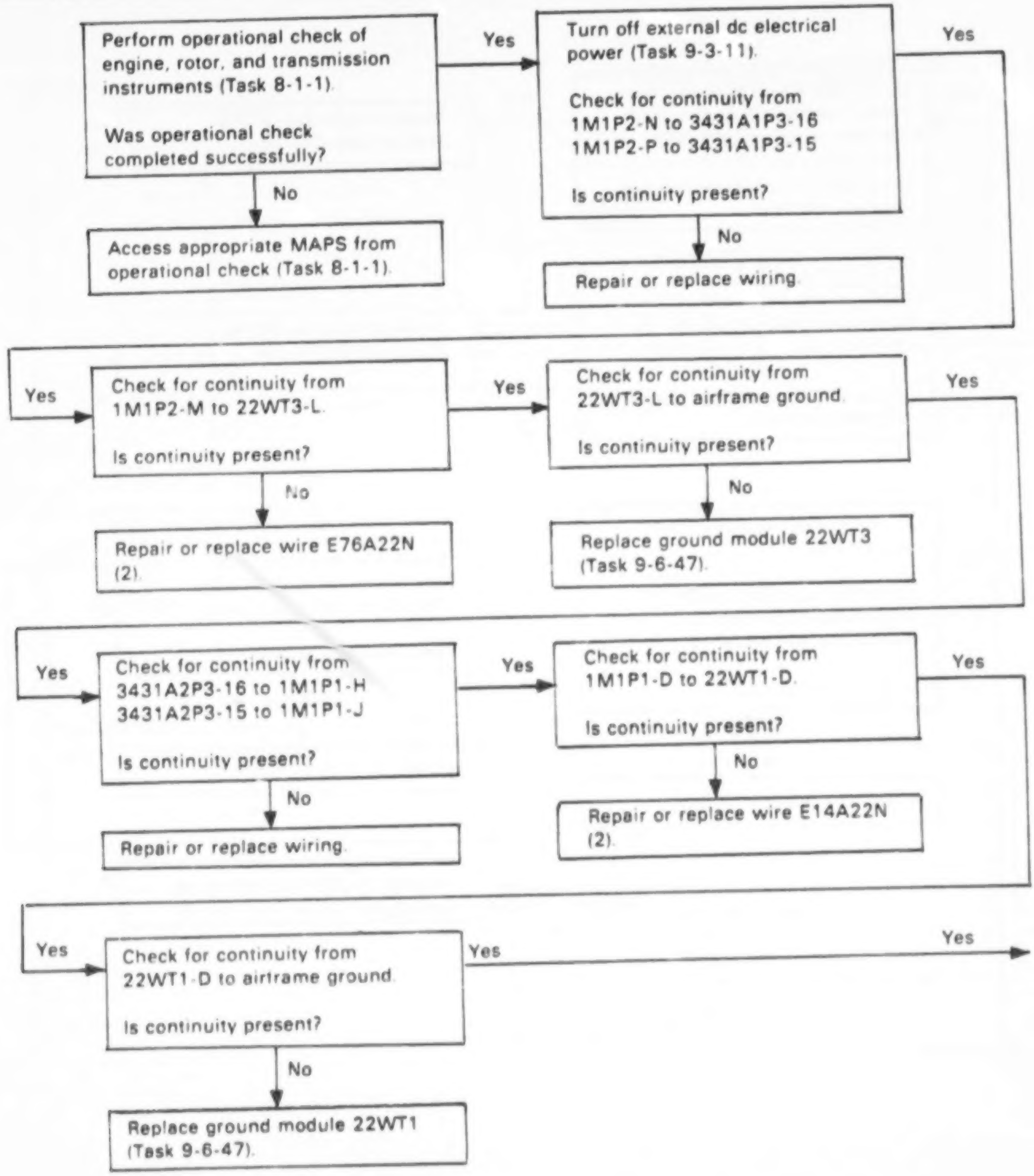

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Yes
Replace defective MCPU (TM 9-1240-778-20).
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Yes
Check for continuity from 1P1-37 to 1P2-37 1P1-36 to 1P2-36
Is continuity present?
Yes
No
No
Repair or replace wiring.
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3431A1P5-84 to 1J2-37 3431A1P5-83 to 1J2-36
Is continuity present?
Yes
Yes
Check for continuity from pin 3 of connector on gas turbine tach to pin 36 of connector J1 connected to 1P1.
Is continuity present?
Yes
No
No
Repair or replace wiring.
Repair or replace wire.
Yes
Check for continuity from pin 4 of connector on gas turbine tach to pin 37 of connector J1 connected to 1P1.
Is continuity present?
Yes
No
Yes
Repair or replace wire.
Yes
Replace power turbine tach (TM 55-2840-256-23).

137. ENGINE NG RPM INDICATOR (VERTICAL SCALE) DOES NOT INDICATE APPROXIMATELY 80% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)

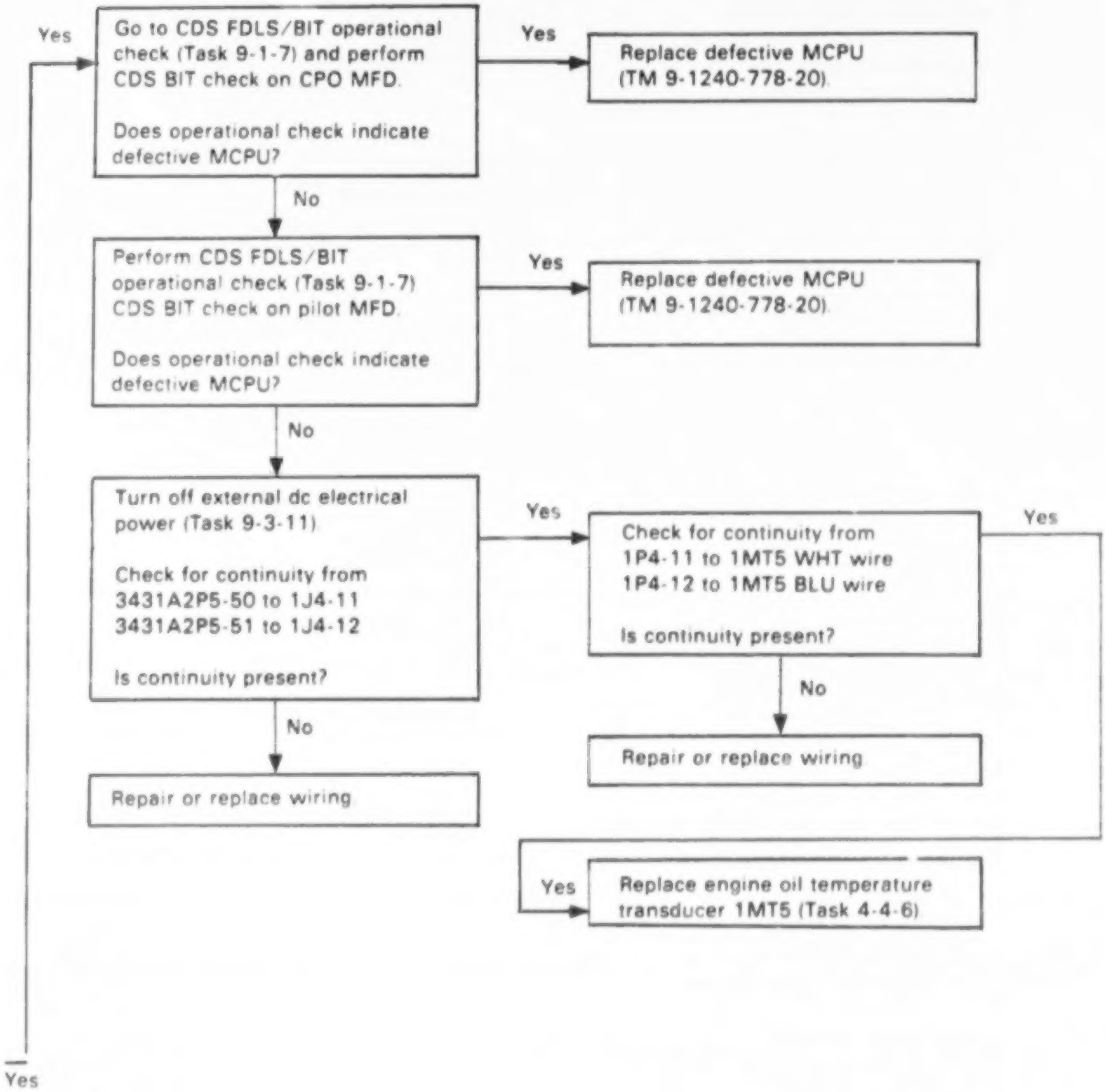

MPD
1M1
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
343A1P3
J3
343A1
MCPU, LEFT
P
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
P
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
343A2P3
J3
343A2
MCPU, RIGHT
P
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
37
36
P
P
E64B22(8) BLU
E64B22(8) WHT
343A1P5
J5
343A1
MCPU, LEFT
P
84
83
GAS PROD SPEED-NL LO
GAS PROD SPEED-NL HI
ENG
DISC
1P1
J1
ENGINE
E64A20(8) WHT
E64A20(8) BLU
P
36
37
P
P
GAS TURBINE
TACH
3
4
B

406475-221

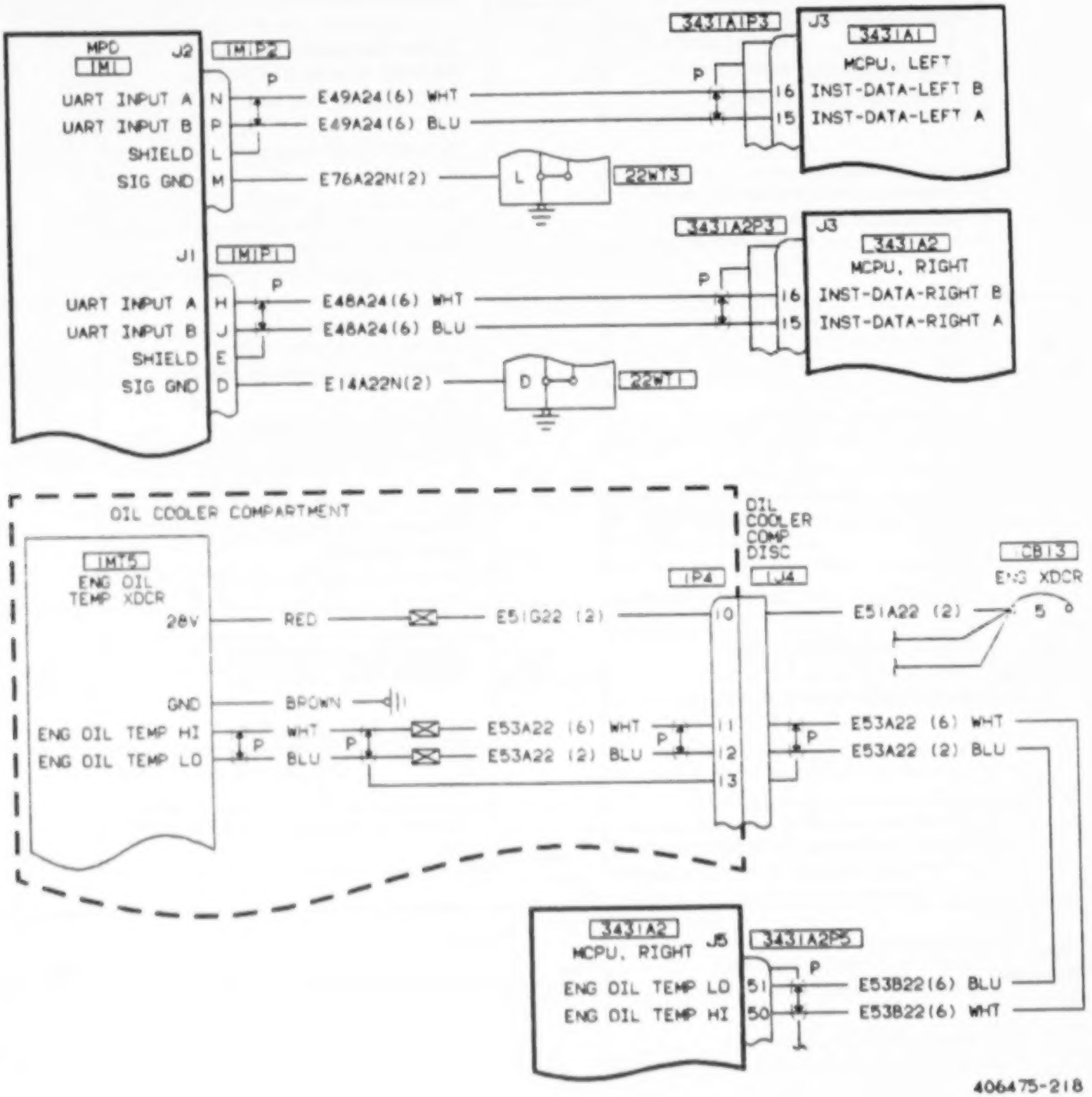
138. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15
Is continuity present?
No
Repair or replace wiring.
Yes
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
No
Repair or replace wire E76A22N (2).
Yes
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J
Is continuity present?
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
No
Repair or replace wire E14A22N (2).
Yes
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

138. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON)

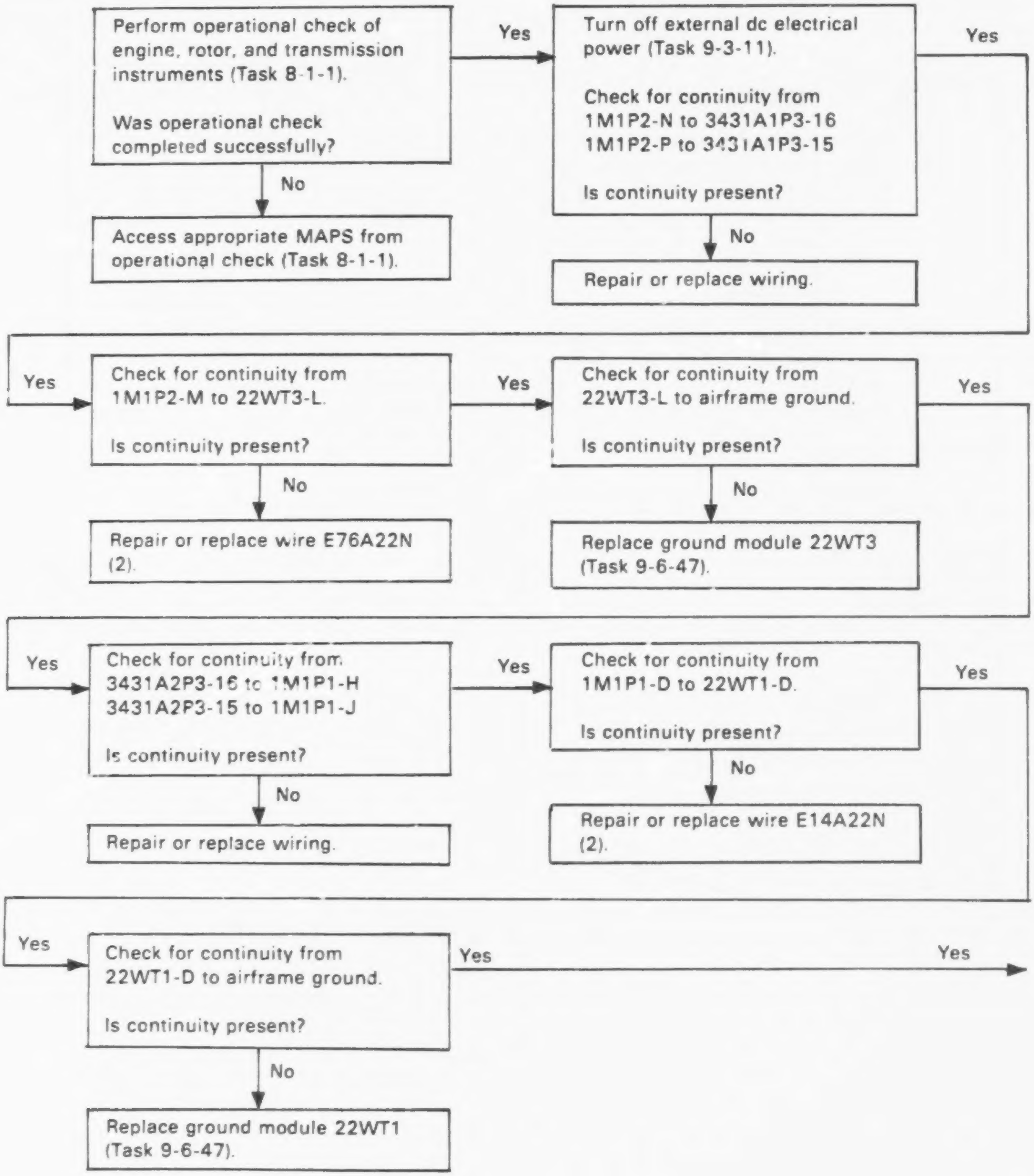

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Turn off external dc electrical power (Task 9-3-11)
Check for continuity from
3431A2P5-50 to 1J4-11
3431A2P5-51 to 1J4-12
Is continuity present?
Yes
Check for continuity from
1P4-11 to 1MT5 WHT wire
1P4-12 to 1MT5 BLU wire
Is continuity present?
Yes
No
Repair or replace wiring.
No
Repair or replace wiring.
Yes
Replace engine oil temperature transducer 1MT5 (Task 4-4-6).
Yes

138. ENGINE OIL TEMPERATURE INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)

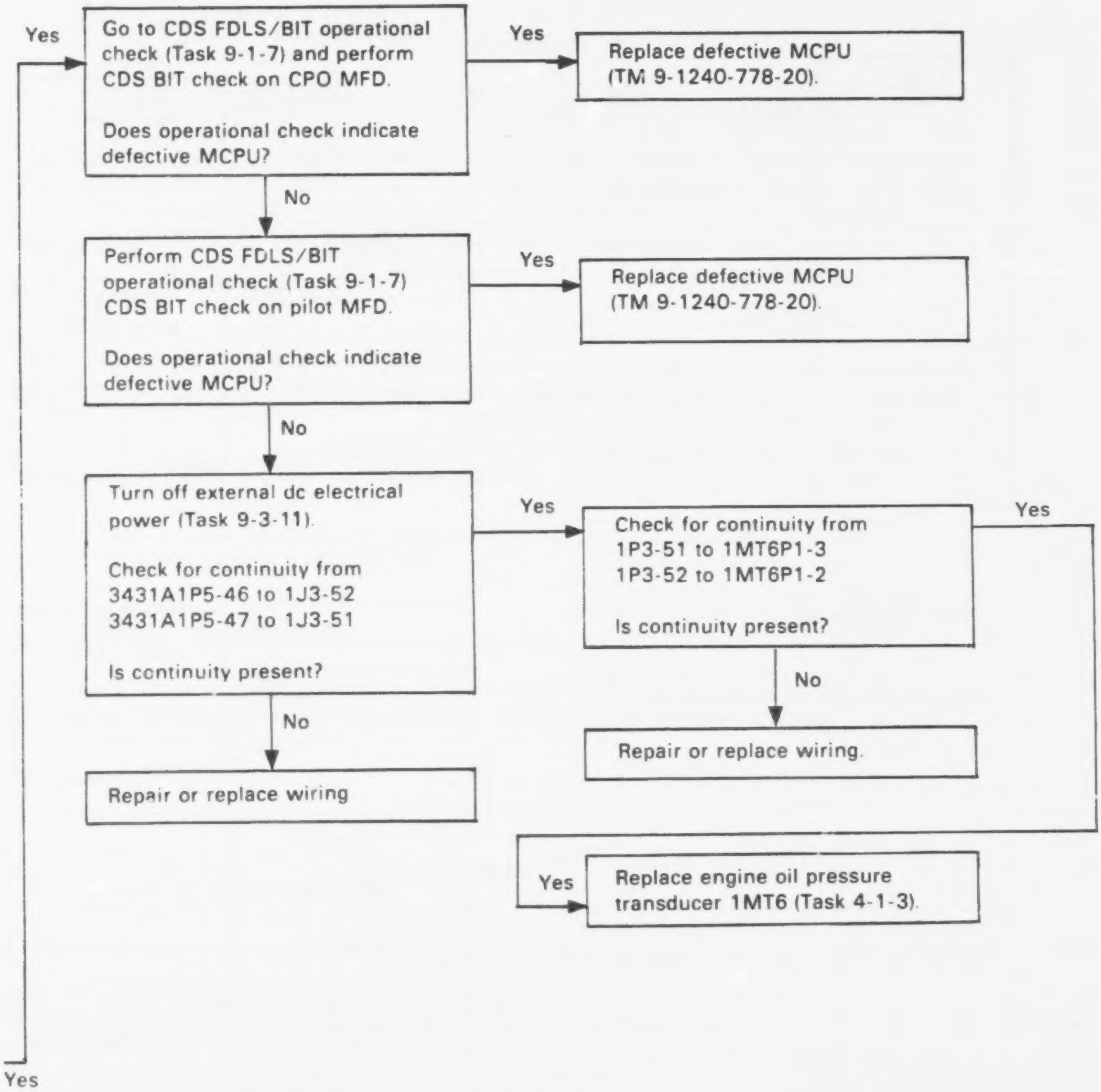

MPD
1M1
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
343 1A1P3
J3
343 1A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
343 1A2P3
J3
343 1A2
MCPU, RIGHT
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
OIL COOLER COMPARTMENT
1MT5
ENG OIL TEMP XDCR
28V
GND
ENG OIL TEMP HI
ENG OIL TEMP LO
RED
BROWN
WHT
BLU
E51G22 (2)
E53A22 (6) WHT
E53A22 (2) BLU
OIL COOLER COMP DISC
1P4
1J4
10
11
12
13
E51A22 (2)
CB13
ENG XDCR
5
E53A22 (6) WHT
E53A22 (2) BLU
343 1A2
MCPU, RIGHT
J5
343 1A2P5
ENG OIL TEMP LO
ENG OIL TEMP HI
51
50
E53B22(6) BLU
E53B22(6) WHT

406475-218

139. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15
Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
Yes
No
Repair or replace wire E76A22N (2).
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
Yes
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J
Is continuity present?
Yes
No
Repair or replace wiring.
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
Yes
No
Repair or replace wire E14A22N (2).
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

139. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P5-46 to 1J3-52
3431A1P5-47 to 1J3-51

Is continuity present?

Check for continuity from
1P3-51 to 1MT6P1-3
1P3-52 to 1MT6P1-2

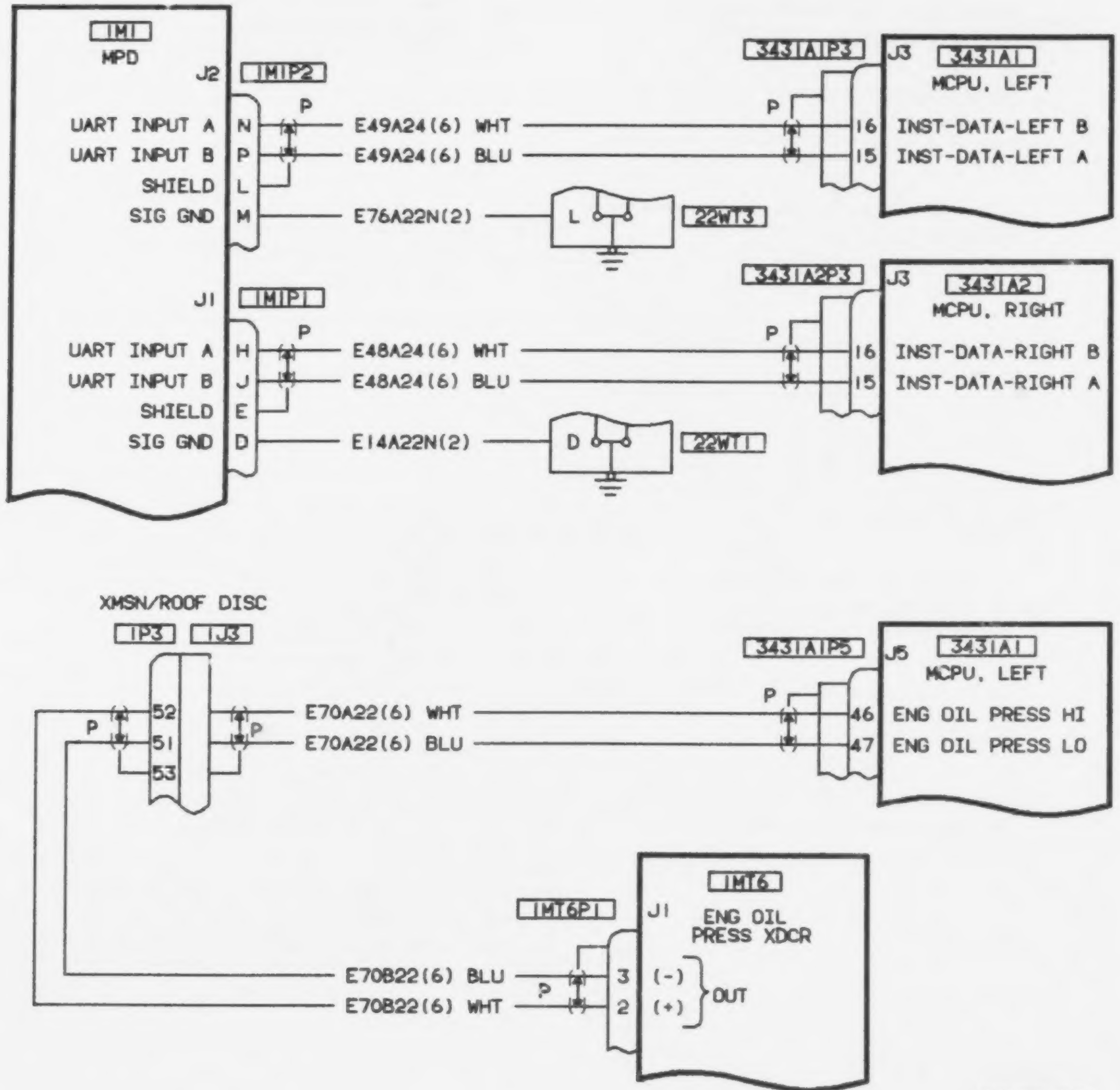
Is continuity present?

Repair or replace wiring.

Repair or replace wiring.

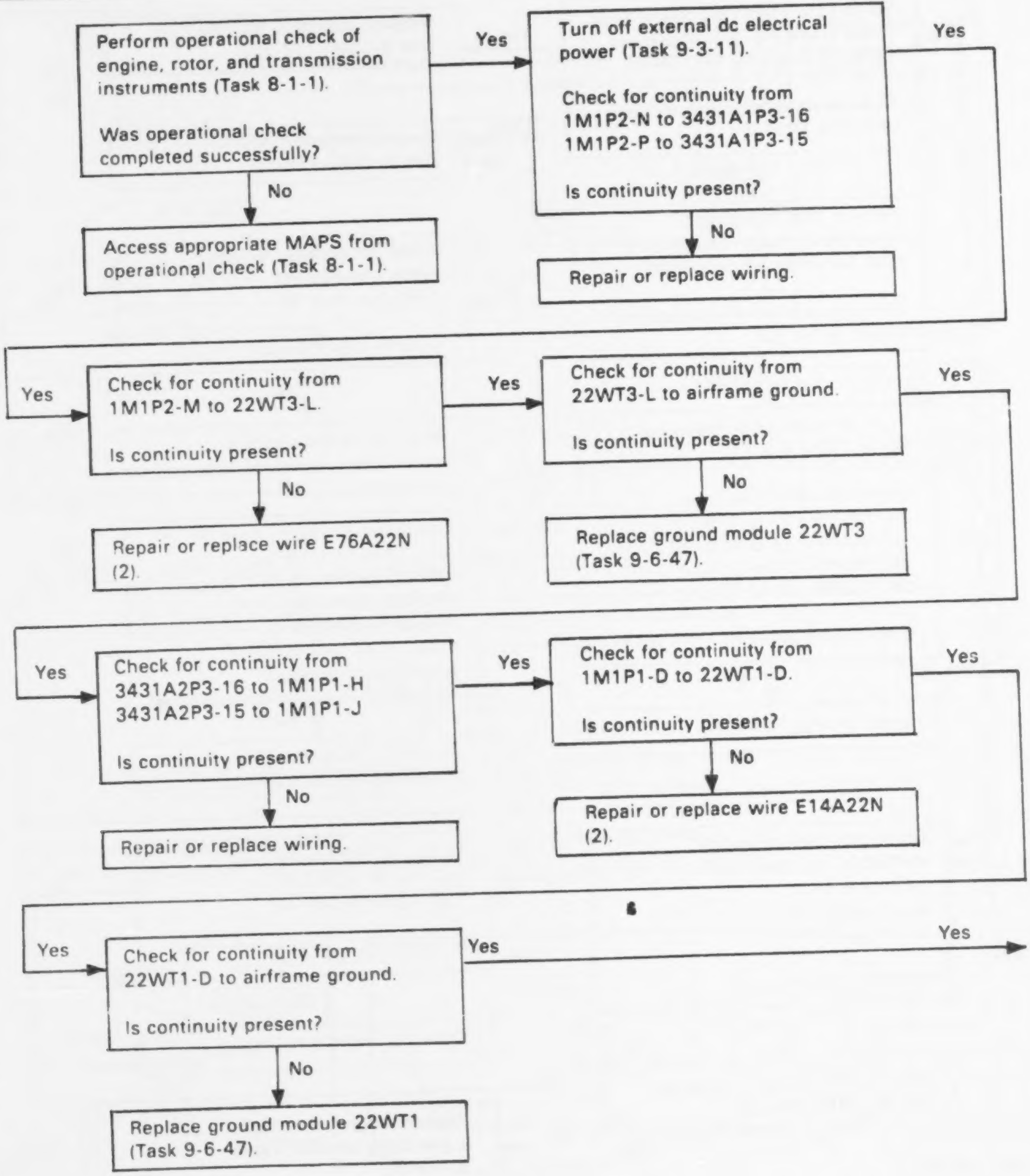
Replace engine oil pressure transducer 1MT6 (Task 4-1-3).

139. ENGINE OIL PRESSURE INDICATOR ON MPD DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A N
UART INPUT B P
SHIELD L
SIG GND M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
343A1P3
J3
343A1
MCPU, LEFT
16 INST-DATA-LEFT B
15 INST-DATA-LEFT A
J1
1M1P1
UART INPUT A H
UART INPUT B J
SHIELD E
SIG GND D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
343A2P3
J3
343A2
MCPU, RIGHT
16 INST-DATA-RIGHT B
15 INST-DATA-RIGHT A
XMSN/ROOF DISC
1P3
1J3
52
51
53
E70A22(6) WHT
E70A22(6) BLU
343A1P5
J5
343A1
MCPU, LEFT
46 ENG OIL PRESS HI
47 ENG OIL PRESS LO
1MT6P1
J1
1MT6
ENG OIL PRESS XDCR
E70B22(6) BLU
E70B22(6) WHT
3 (-)
2 (+)
OUT

406475-216

140. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).

Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

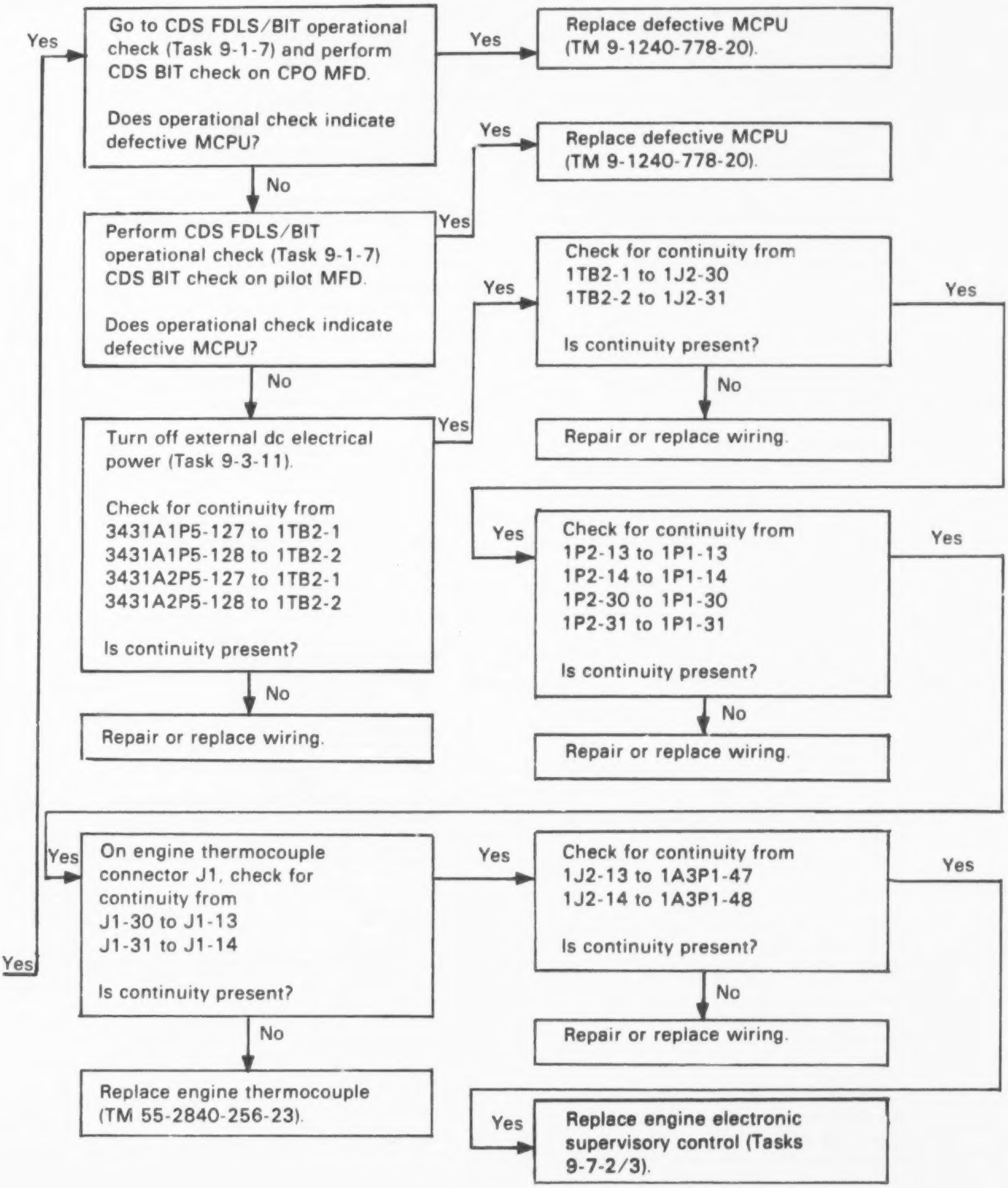
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

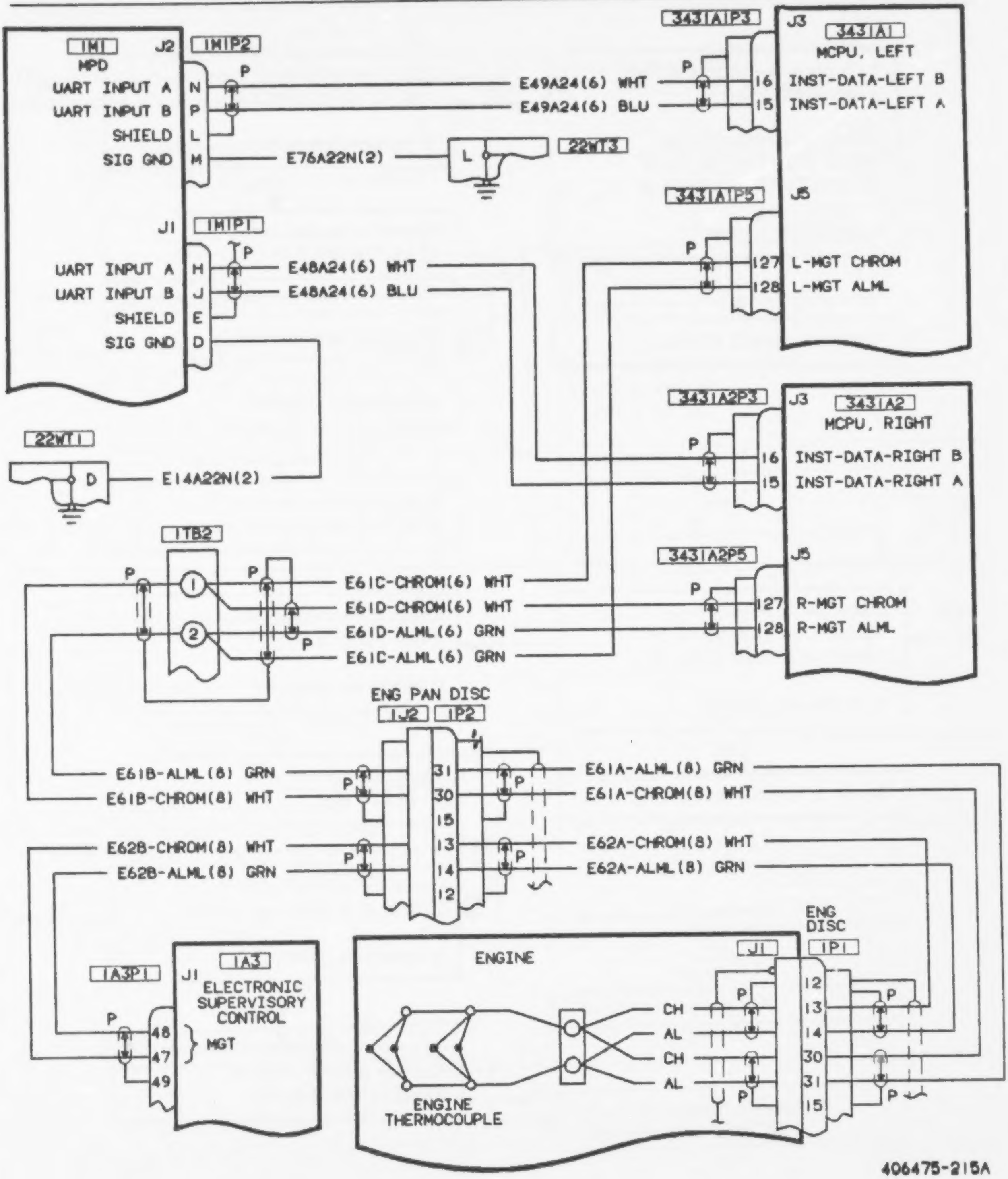
Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

140. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)

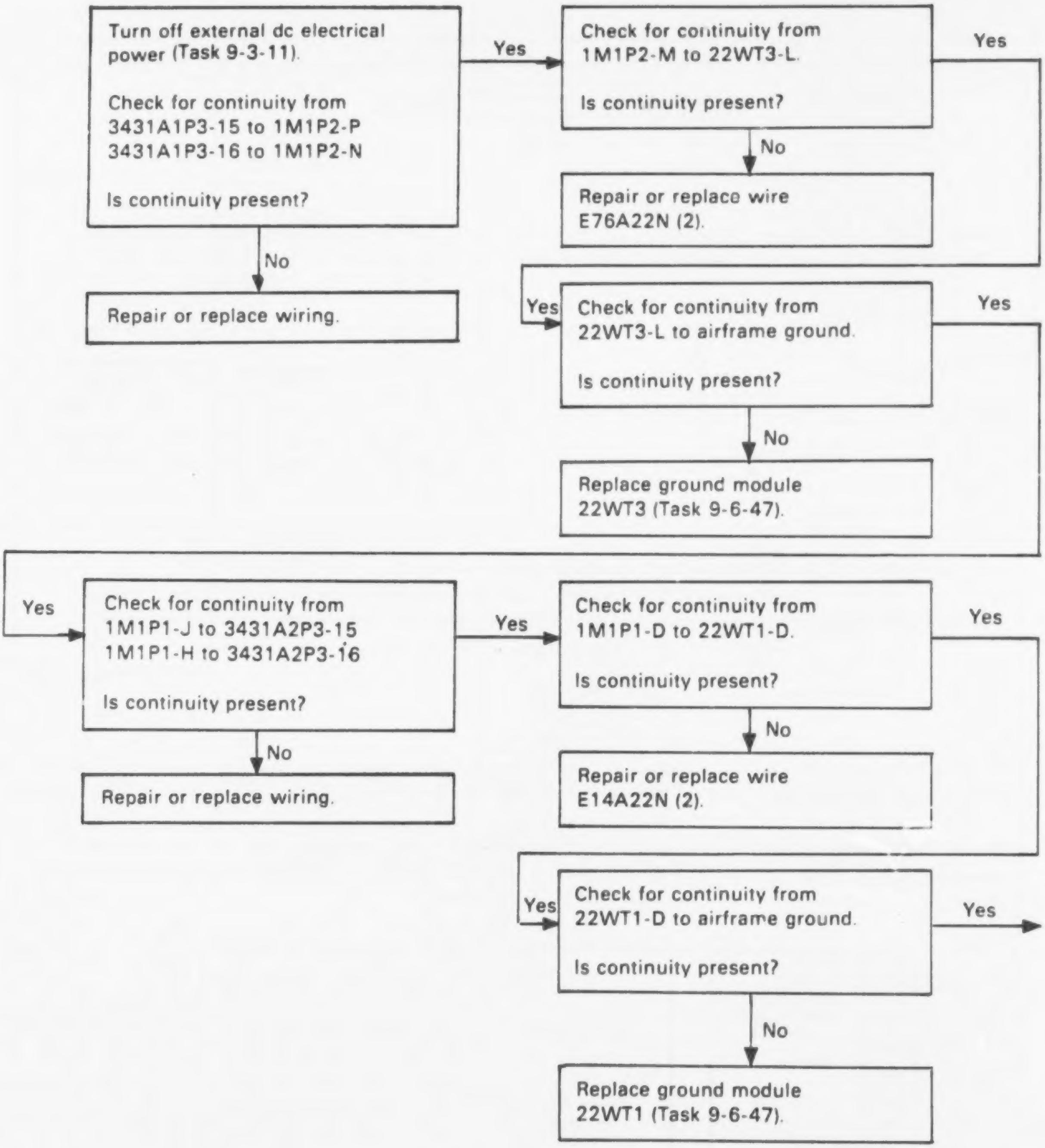

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Yes
Replace defective MCPU (TM 9-1240-778-20).
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Yes
Check for continuity from 1TB2-1 to 1J2-30 1TB2-2 to 1J2-31
Is continuity present?
Yes
No
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3431A1P5-127 to 1TB2-1 3431A1P5-128 to 1TB2-2 3431A2P5-127 to 1TB2-1 3431A2P5-128 to 1TB2-2
Is continuity present?
Yes
Repair or replace wiring.
Yes
Check for continuity from 1P2-13 to 1P1-13 1P2-14 to 1P1-14 1P2-30 to 1P1-30 1P2-31 to 1P1-31
Is continuity present?
Yes
No
Repair or replace wiring.
No
Repair or replace wiring.
Yes
On engine thermocouple connector J1, check for continuity from J1-30 to J1-13 J1-31 to J1-14
Is continuity present?
Yes
Check for continuity from 1J2-13 to 1A3P1-47 1J2-14 to 1A3P1-48
Is continuity present?
Yes
Yes
No
No
Repair or replace wiring.
Replace engine thermocouple (TM 55-2840-256-23).
Yes
Replace engine electronic supervisory control (Tasks 9-7-2/3).

140. ENGINE TGT INDICATOR DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


1M1
MPD
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
P
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
3431A1P5
J5
127
128
L-MGT CHROM
L-MGT ALML
343 1A2P3
J3
343 1A2
MCPU, RIGHT
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
22WT1
D
E14A22N(2)
1TB2
1
2
E61C-CHROM(6) WHT
E61D-CHROM(6) WHT
E61D-ALML(6) GRN
E61C-ALML(6) GRN
343 1A2P5
J5
127
128
R-MGT CHROM
R-MGT ALML
ENG PAN DISC
1J2
1P2
E61B-ALML(8) GRN
E61B-CHROM(8) WHT
E62B-CHROM(8) WHT
E62B-ALML(8) GRN
31
30
15
13
14
12
E61A-ALML(8) GRN
E61A-CHROM(8) WHT
E62A-CHROM(8) WHT
E62A-ALML(8) GRN
1A3P1
J1
1A3
ELECTRONIC SUPERVISORY CONTROL
48
47
49
MGT
ENGINE
ENGINE THERMOCOUPLE
CH
AL
CH
AL
J1
ENG DISC
1P1
12
13
14
30
31
15
P

406475-215A

141. ENGINE NP RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A1P3-15 to 1M1P2-P 3431A1P3-16 to 1M1P2-N

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from 1M1P1-J to 3431A2P3-15 1M1P1-H to 3431A2P3-16

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

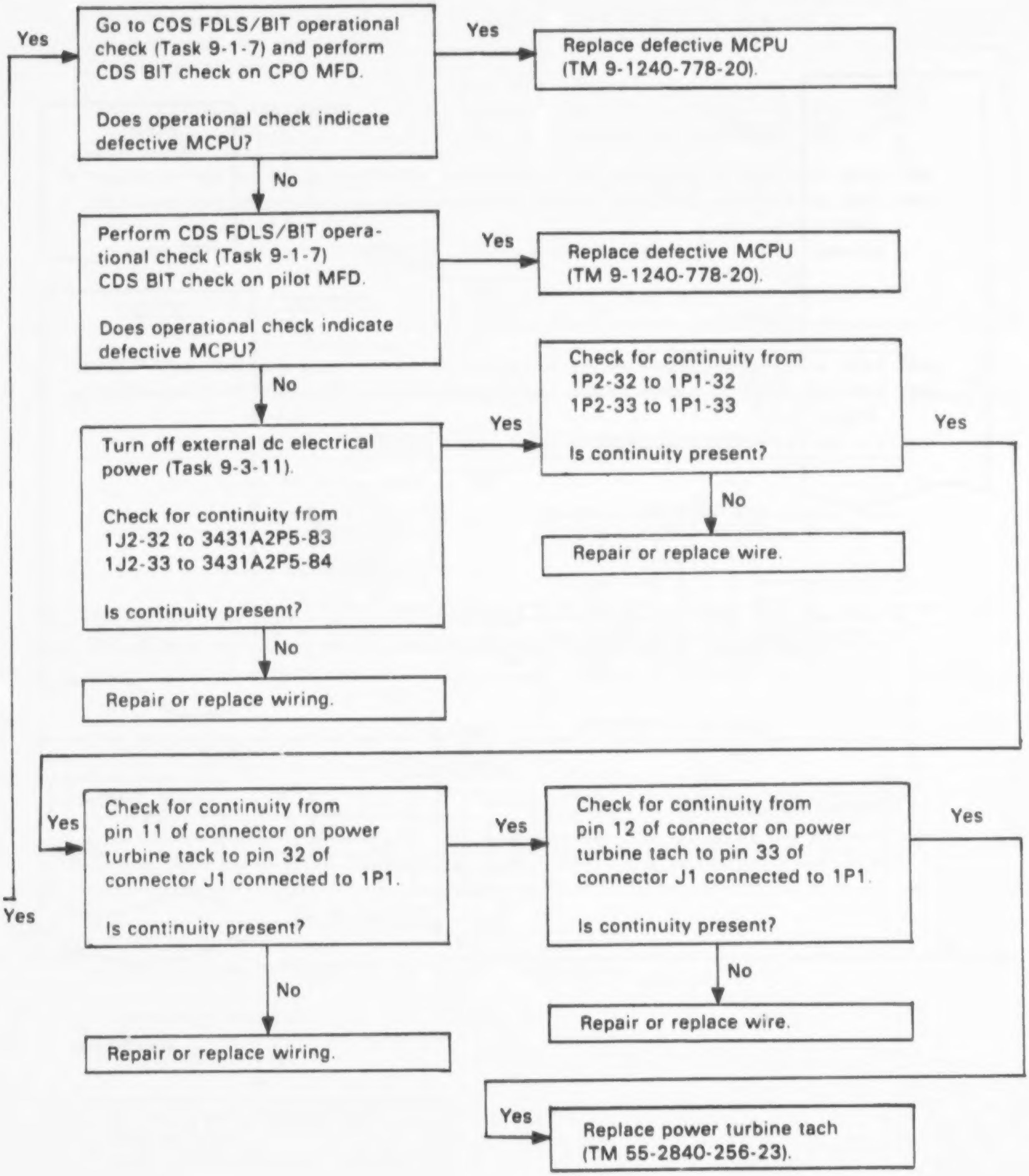
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

141. ENGINE NP RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1J2-32 to 3431A2P5-83
1J2-33 to 3431A2P5-84

Is continuity present?

Repair or replace wiring.

Check for continuity from
1P2-32 to 1P1-32
1P2-33 to 1P1-33

Is continuity present?

Repair or replace wire.

Check for continuity from pin 11 of connector on power turbine tack to pin 32 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wiring.

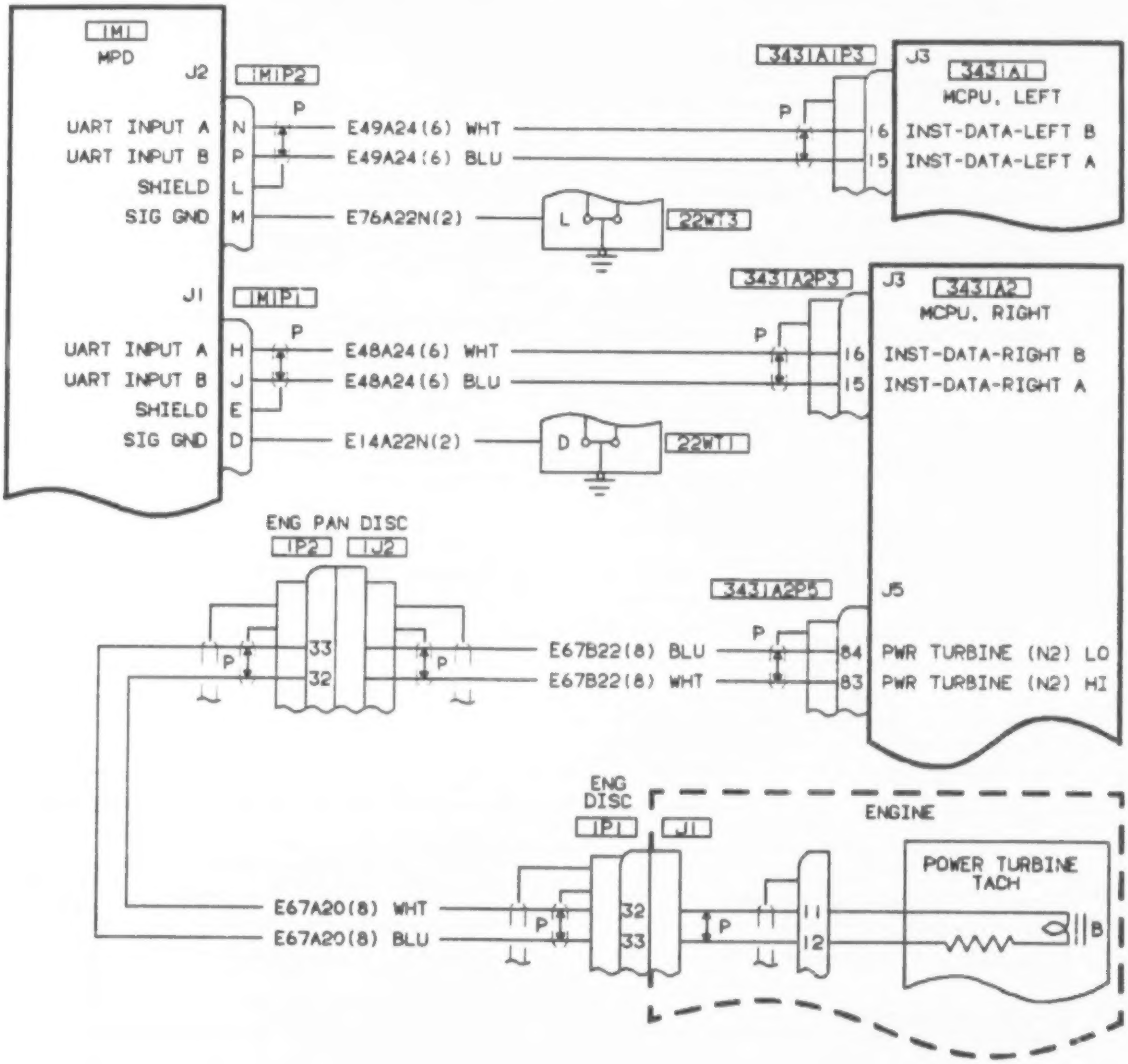
Check for continuity from pin 12 of connector on power turbine tach to pin 33 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

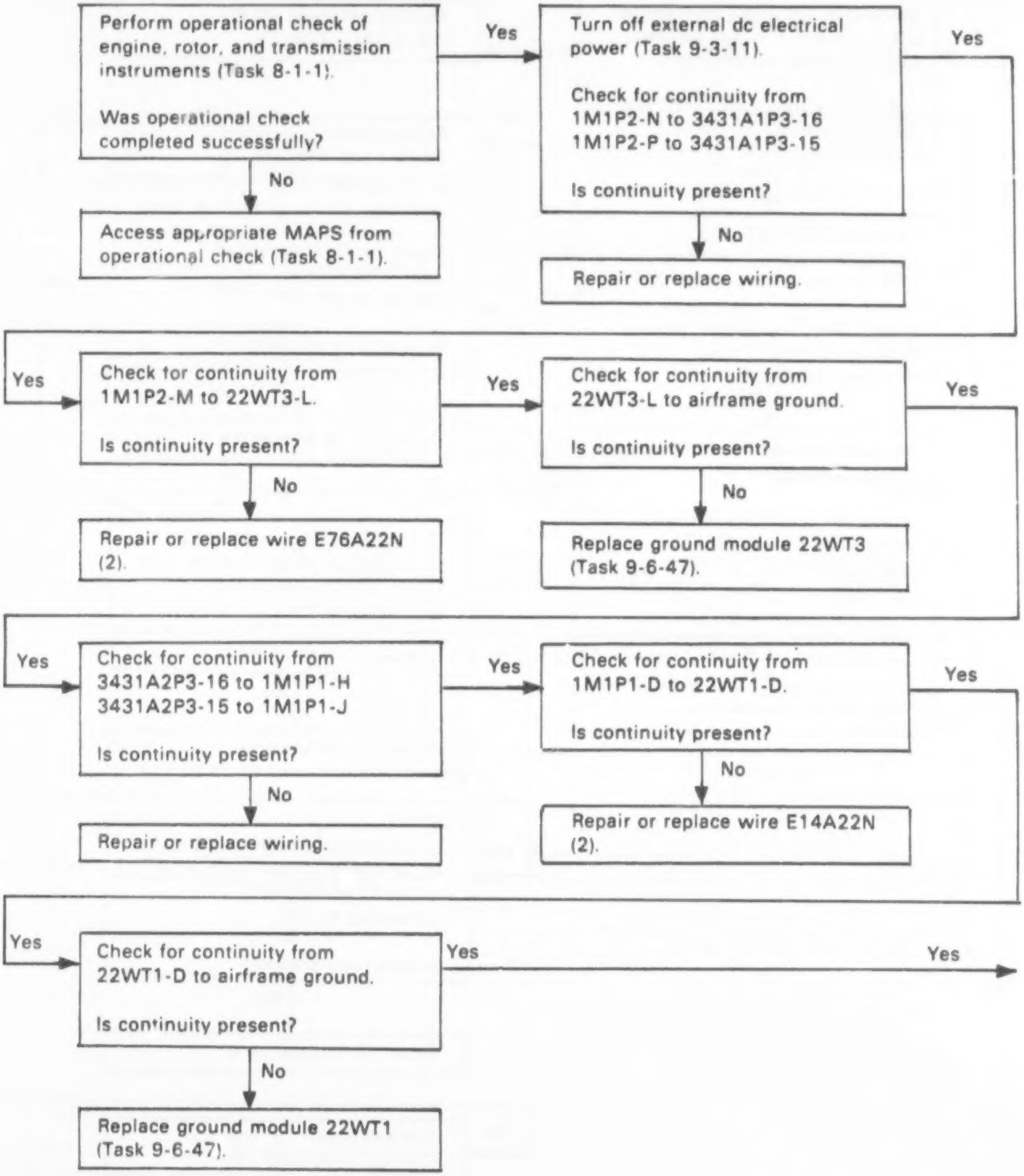
Replace power turbine tach (TM 55-2840-256-23).

141. ENGINE NP RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 100% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)

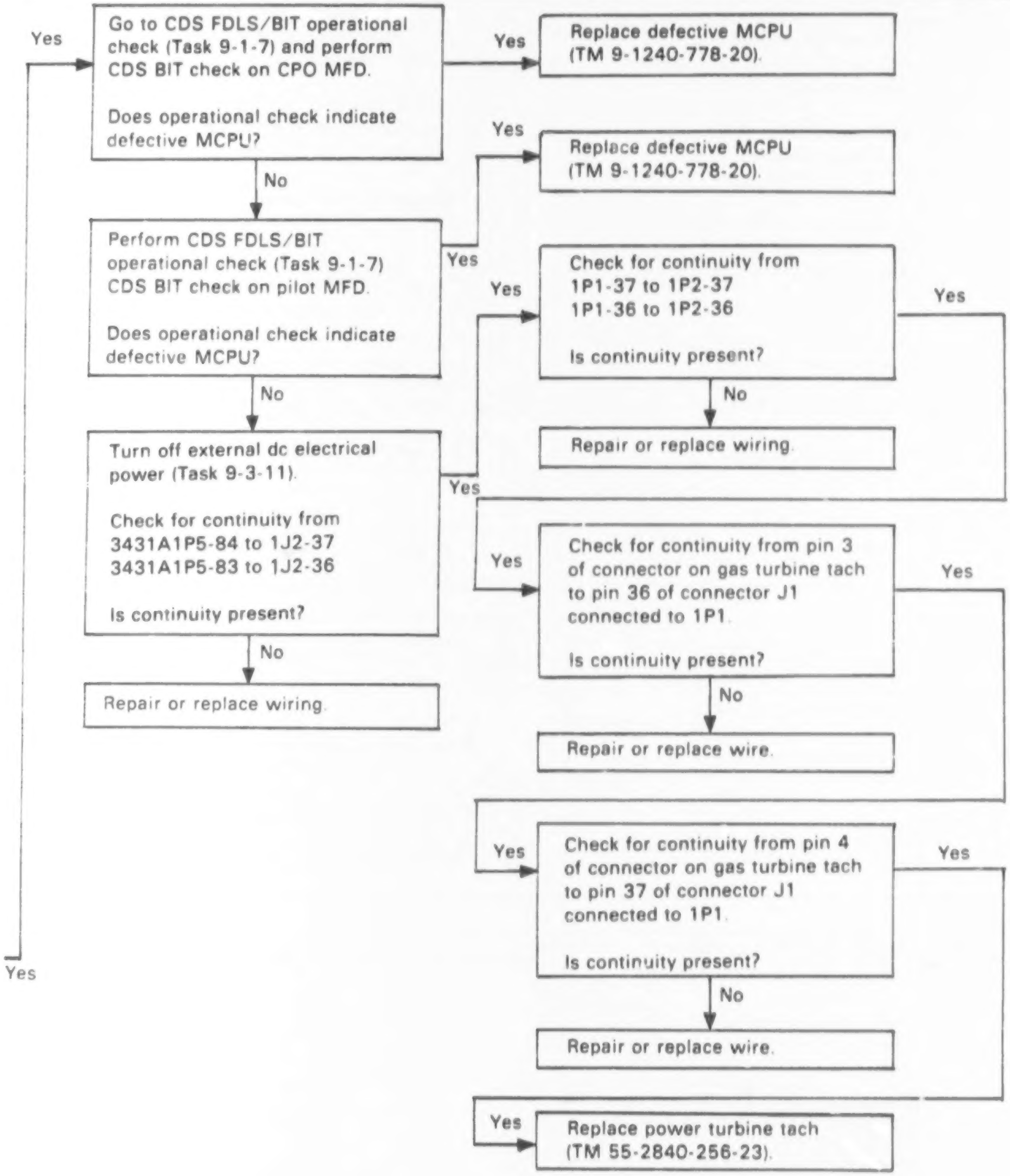

1M1
MPD
J2
1M1P2
UART INPUT A
N
UART INPUT B
P
SHIELD
L
SIG GND
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
INST-DATA-LEFT B
15
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
H
UART INPUT B
J
SHIELD
E
SIG GND
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
3431A2P3
J3
3431A2
MCPU, RIGHT
16
INST-DATA-RIGHT B
15
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
33
32
E67B22(8) BLU
E67B22(8) WHT
3431A2P5
J5
84
PWR TURBINE (N2) LO
83
PWR TURBINE (N2) HI
ENG DISC
1P1
J1
ENGINE
E67A20(8) WHT
E67A20(8) BLU
32
33
11
12
POWER TURBINE TACH
B

406475-219

142. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 85% (HELICOPTER AT 100% RPM AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15
Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
Yes
No
Repair or replace wire E76A22N (2).
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
Yes
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J
Is continuity present?
Yes
No
Repair or replace wiring.
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
Yes
No
Repair or replace wire E14A22N (2).
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

142. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 85% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A1P5-84 to 1J2-37 3431A1P5-83 to 1J2-36

Is continuity present?

Repair or replace wiring.

Check for continuity from 1P1-37 to 1P2-37 1P1-36 to 1P2-36

Is continuity present?

Repair or replace wiring.

Check for continuity from pin 3 of connector on gas turbine tach to pin 36 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

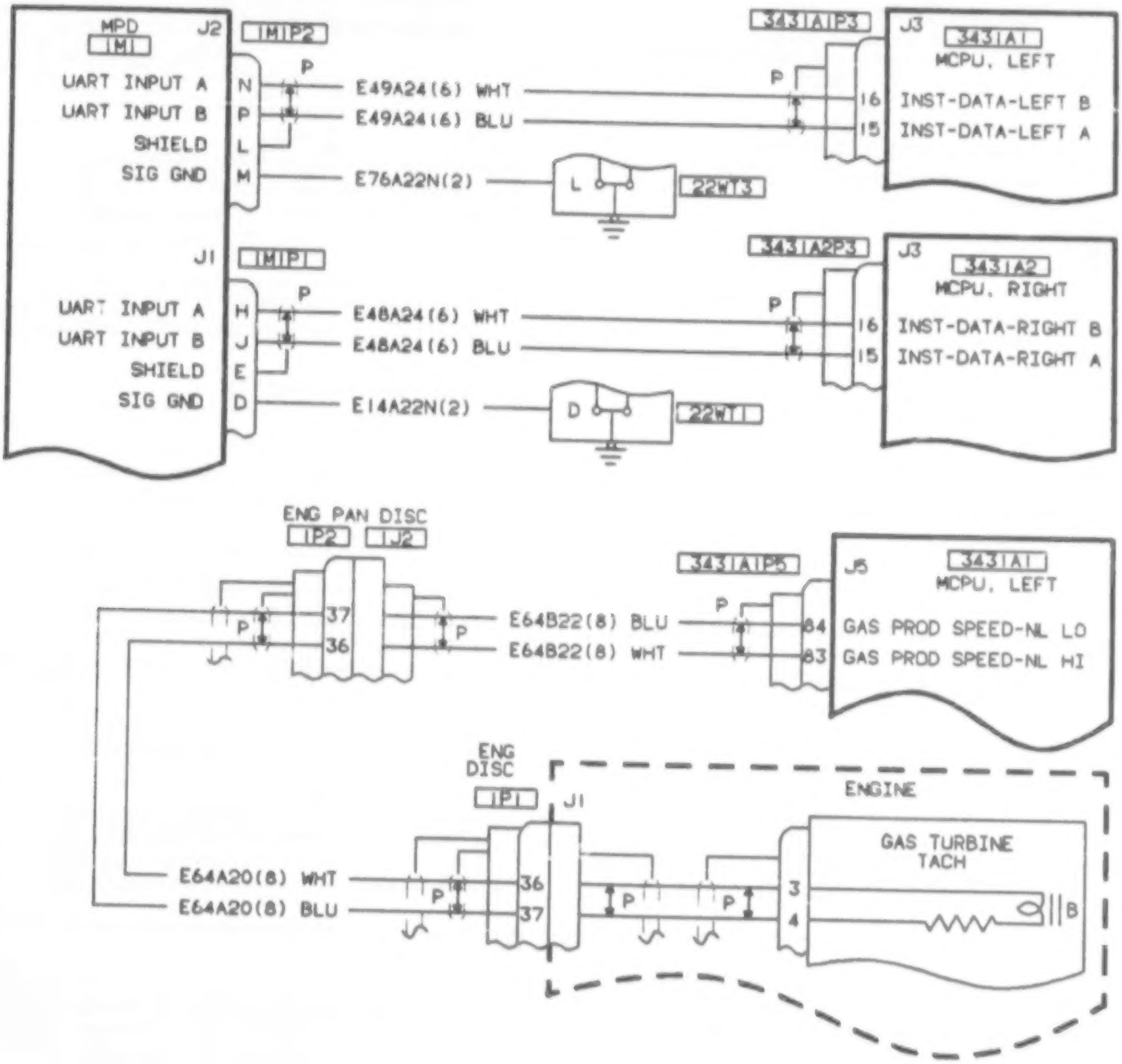
Check for continuity from pin 4 of connector on gas turbine tach to pin 37 of connector J1 connected to 1P1.

Is continuity present?

Repair or replace wire.

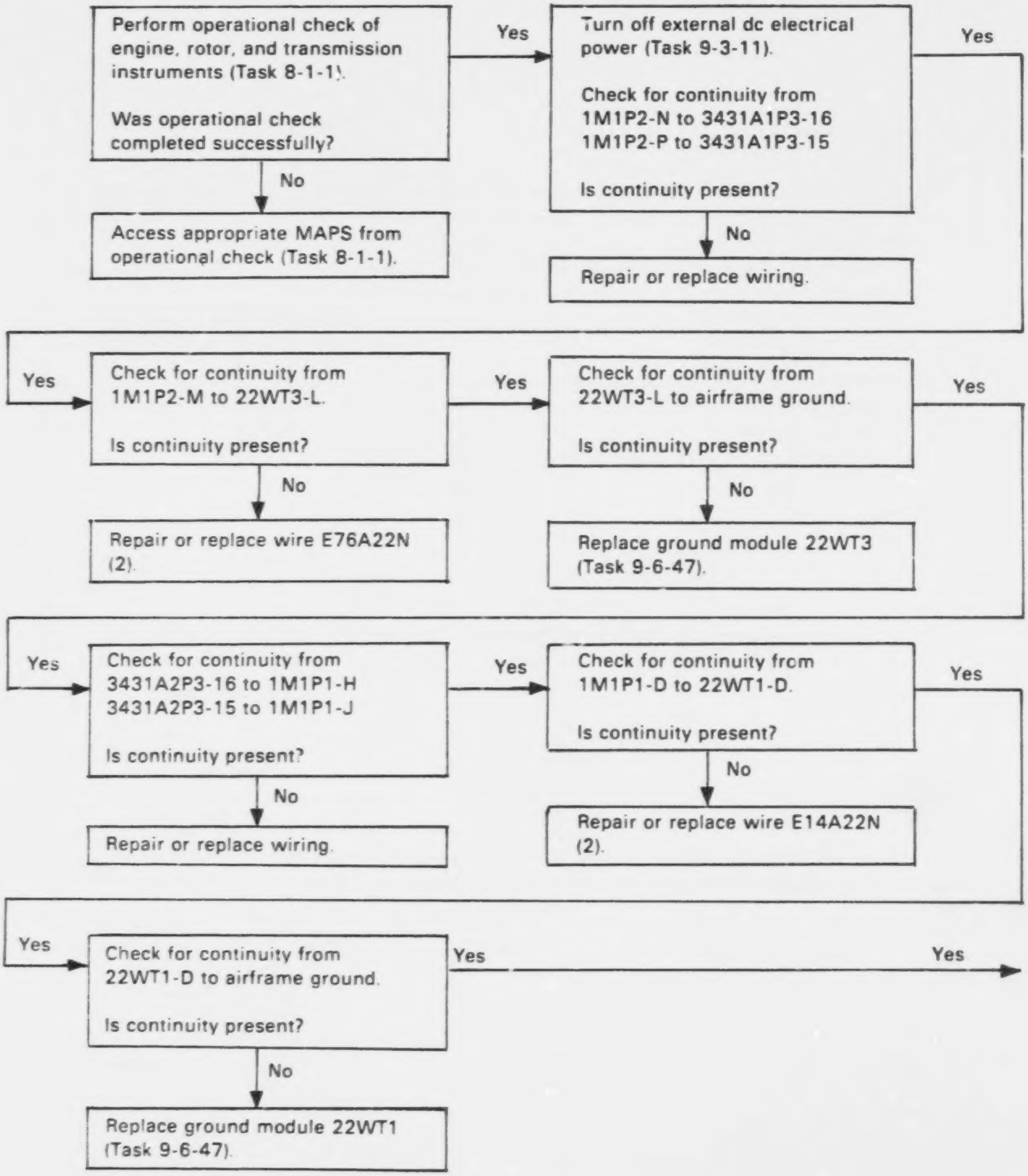
Replace power turbine tach (TM 55-2840-256-23).

142. ENGINE NG RPM INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 85% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


MPD
1M1
J2
1M1P2
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
343IA1P3
J3
343IA1
MCPU, LEFT
P
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
P
E48A24(6) WHT
E48A24(6) BLU
E14A22N(2)
D
22WT1
343IA2P3
J3
343IA2
MCPU, RIGHT
P
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
ENG PAN DISC
1P2
1J2
37
36
P
P
E64B22(8) BLU
E64B22(8) WHT
343IA1P5
J5
343IA1
MCPU, LEFT
P
84
83
GAS PROD SPEED-NL LO
GAS PROD SPEED-NL HI
ENG DISC
1P1
J1
ENGINE
E64A20(8) WHT
E64A20(8) BLU
P
36
37
P
P
3
4
GAS TURBINE TACH
B

406475-221

143. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 24% (HELICOPTER AT 100% RPM AND DC GENERATOR ON)



Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1). Was operational check completed successfully?

Access appropriate MAPS from operational check (Task 8-1-1).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
1M1P2-N to 3431A1P3-16
1M1P2-P to 3431A1P3-15

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P2-M to 22WT3-L.

Is continuity present?

Repair or replace wire E76A22N (2).

Check for continuity from 22WT3-L to airframe ground.

Is continuity present?

Replace ground module 22WT3 (Task 9-6-47).

Check for continuity from
3431A2P3-16 to 1M1P1-H
3431A2P3-15 to 1M1P1-J

Is continuity present?

Repair or replace wiring.

Check for continuity from 1M1P1-D to 22WT1-D.

Is continuity present?

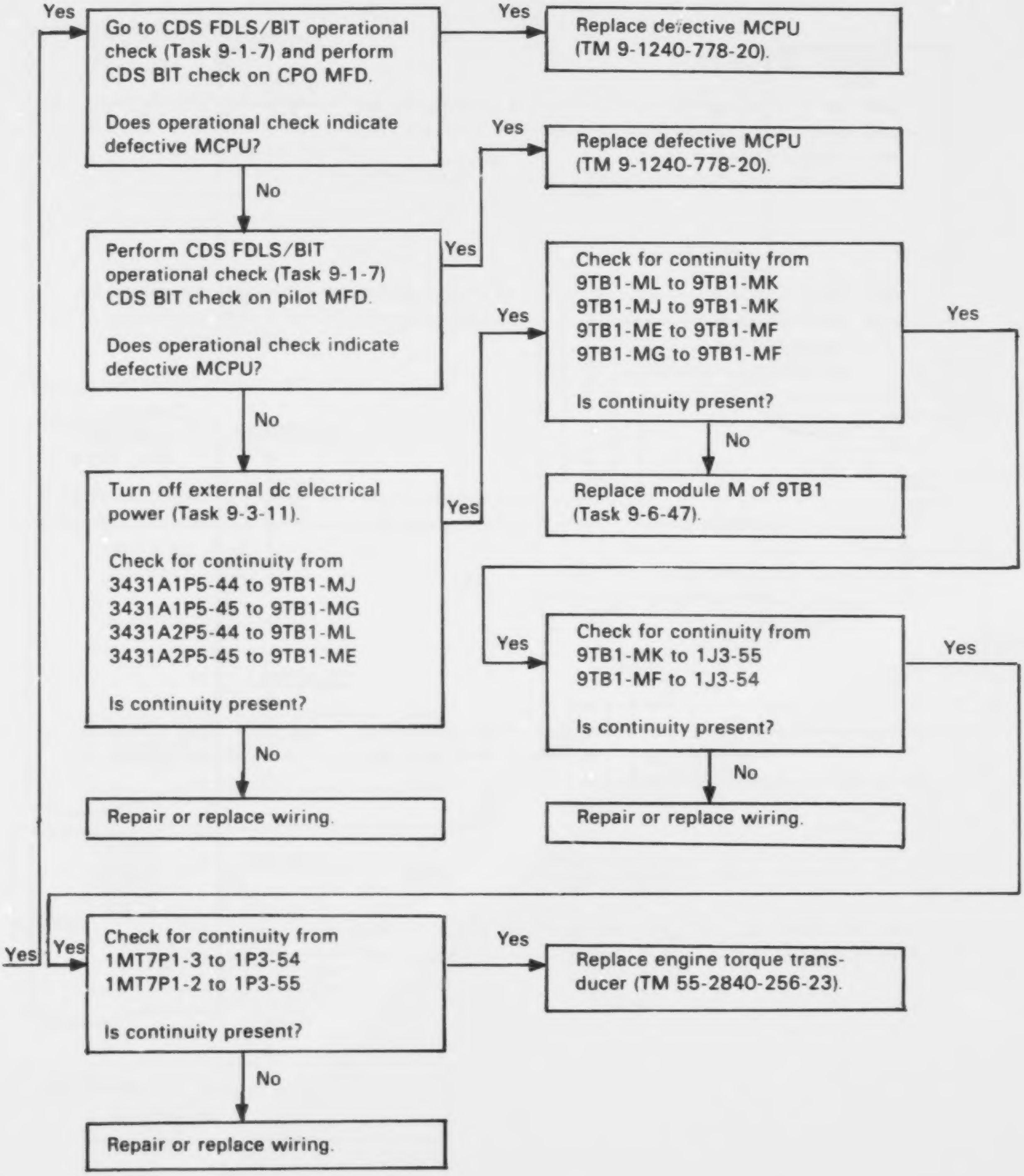
Repair or replace wire E14A22N (2).

Check for continuity from 22WT1-D to airframe ground.

Is continuity present?

Replace ground module 22WT1 (Task 9-6-47).

143. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 24% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)



Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.

Does operational check indicate defective MCPU?

Replace defective MCPU (TM 9-1240-778-20).

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from
3431A1P5-44 to 9TB1-MJ
3431A1P5-45 to 9TB1-MG
3431A2P5-44 to 9TB1-ML
3431A2P5-45 to 9TB1-ME

Is continuity present?

Repair or replace wiring.

Check for continuity from
9TB1-ML to 9TB1-MK
9TB1-MJ to 9TB1-MK
9TB1-ME to 9TB1-MF
9TB1-MG to 9TB1-MF

Is continuity present?

Replace module M of 9TB1 (Task 9-6-47).

Check for continuity from
9TB1-MK to 1J3-55
9TB1-MF to 1J3-54

Is continuity present?

Repair or replace wiring.

Check for continuity from
1MT7P1-3 to 1P3-54
1MT7P1-2 to 1P3-55

Is continuity present?

Replace engine torque transducer (TM 55-2840-256-23).

Repair or replace wiring.

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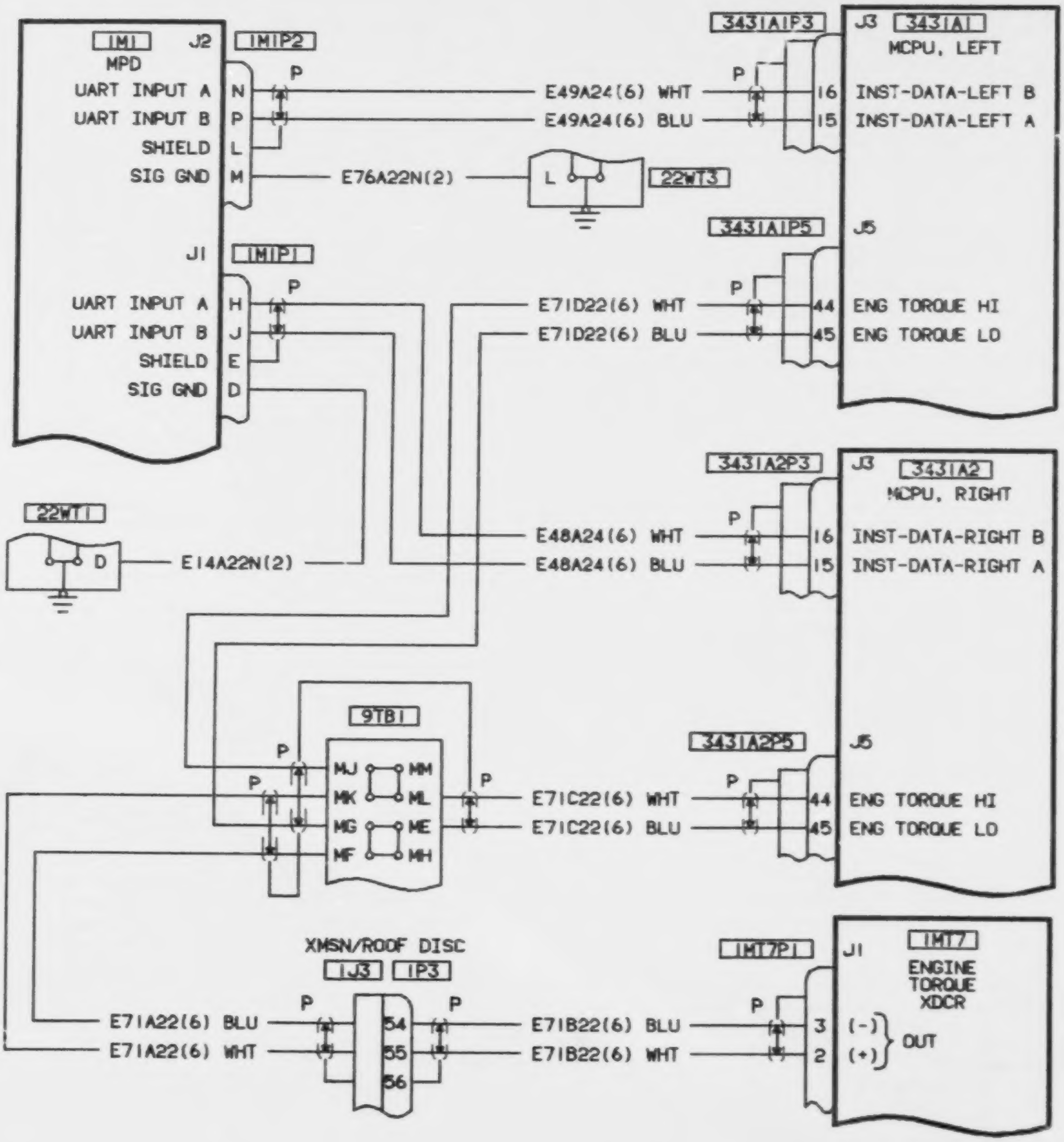
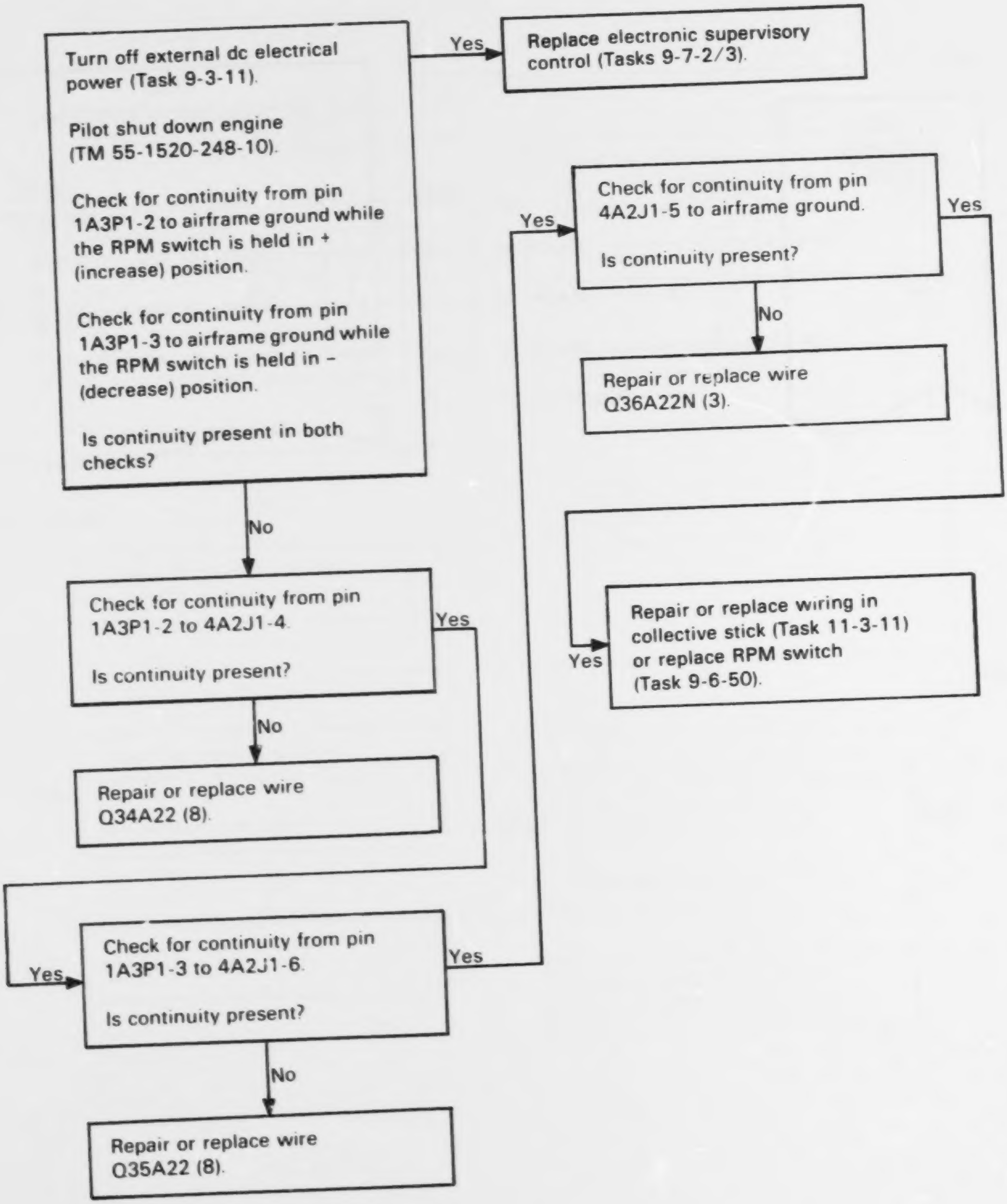
143. ENGINE TORQUE INDICATOR (DIGITAL) ON MPD DOES NOT INDICATE APPROXIMATELY 24% (HELICOPTER AT 100% RPM AND DC GENERATOR ON) (CONT)


1M1
J2
MPD
UART INPUT A
UART INPUT B
SHIELD
SIG GND
1M1P2
N
P
L
M
P
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
L
22WT3
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
3431A1P5
J5
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E71D22(6) WHT
E71D22(6) BLU
44
45
ENG TORQUE HI
ENG TORQUE LO
3431A2P3
J3
3431A2
MCPU, RIGHT
22WT1
D
E14A22N(2)
E48A24(6) WHT
E48A24(6) BLU
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A
9TB1
MJ
MK
MG
MF
MM
ML
ME
MH
E71C22(6) WHT
E71C22(6) BLU
3431A2P5
J5
44
45
ENG TORQUE HI
ENG TORQUE LO
XMSN/ROOF DISC
1J3
1P3
E71A22(6) BLU
E71A22(6) WHT
54
55
56
E71B22(6) BLU
E71B22(6) WHT
1MT7P1
J1
1MT7
ENGINE TORQUE XDCR
3
2
(-)
(+)
OUT
P

406475-224

144. RPM SWITCH DOES NOT INCREASE AND/OR DECREASE ENGINE RPM



Turn off external dc electrical power (Task 9-3-11).

Pilot shut down engine (TM 55-1520-248-10).

Check for continuity from pin 1A3P1-2 to airframe ground while the RPM switch is held in + (increase) position.

Check for continuity from pin 1A3P1-3 to airframe ground while the RPM switch is held in – (decrease) position.

Is continuity present in both checks?

Replace electronic supervisory control (Tasks 9-7-2/3).

Check for continuity from pin 1A3P1-2 to 4A2J1-4.

Is continuity present?

Repair or replace wire Q34A22 (8).

Check for continuity from pin 1A3P1-3 to 4A2J1-6.

Is continuity present?

Repair or replace wire Q35A22 (8).

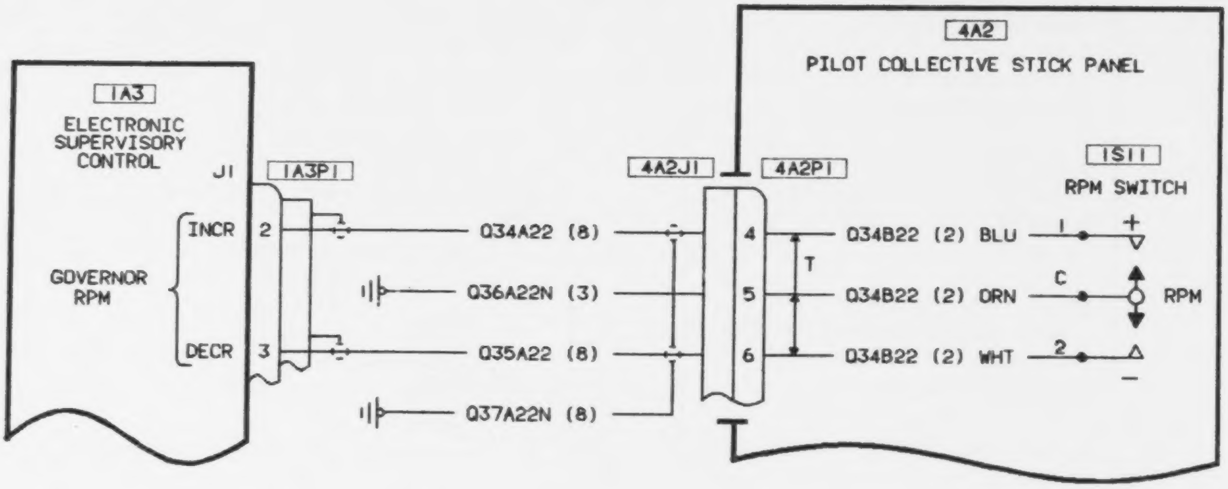
Check for continuity from pin 4A2J1-5 to airframe ground.

Is continuity present?

Repair or replace wire Q36A22N (3).

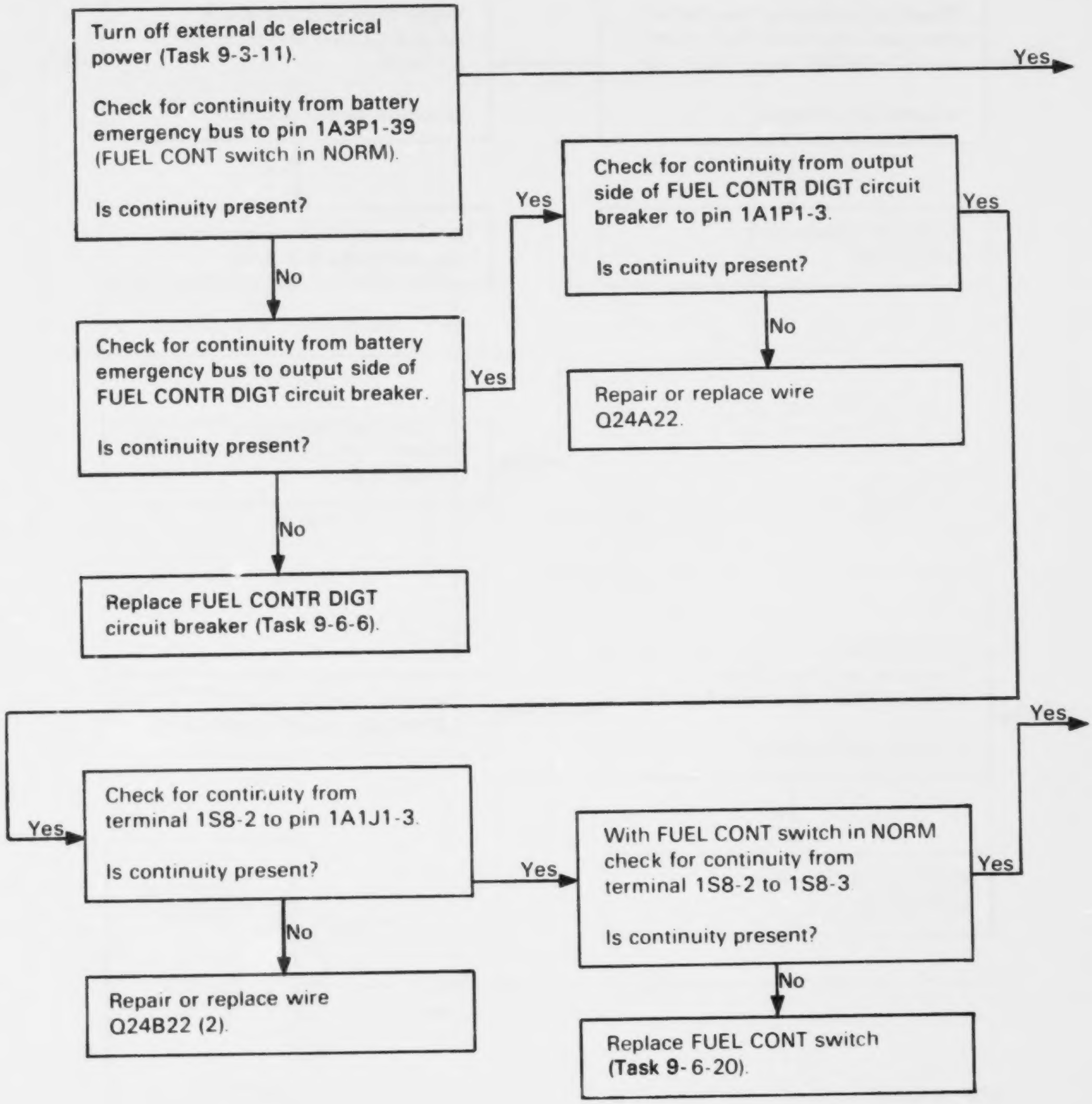
Repair or replace wiring in collective stick (Task 11-3-11) or replace RPM switch (Task 9-6-50).

144. RPM SWITCH DOES NOT INCREASE AND/OR DECREASE ENGINE RPM (CONT)


1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
INCR
2
GOVERNOR RPM
DECR
3
Q34A22 (8)
Q36A22N (3)
Q35A22 (8)
Q37A22N (8)
4A2J1
4A2P1
4
5
6
T
4A2
PILOT COLLECTIVE STICK PANEL
1S11
RPM SWITCH
Q34B22 (2) BLU
Q34B22 (2) ORN
Q34B22 (2) WHT
1
C
2
+
−
RPM

406475-114B

145. FUEL CONTROL DOES NOT SWITCH TO ANALOG BACKUP



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery emergency bus to pin 1A3P1-39 (FUEL CONT switch in NORM).

Is continuity present?

Check for continuity from battery emergency bus to output side of FUEL CONTR DIGT circuit breaker.

Is continuity present?

Replace FUEL CONTR DIGT circuit breaker (Task 9-6-6).

Check for continuity from output side of FUEL CONTR DIGT circuit breaker to pin 1A1P1-3.

Is continuity present?

Repair or replace wire Q24A22.

Check for continuity from terminal 1S8-2 to pin 1A1J1-3.

Is continuity present?

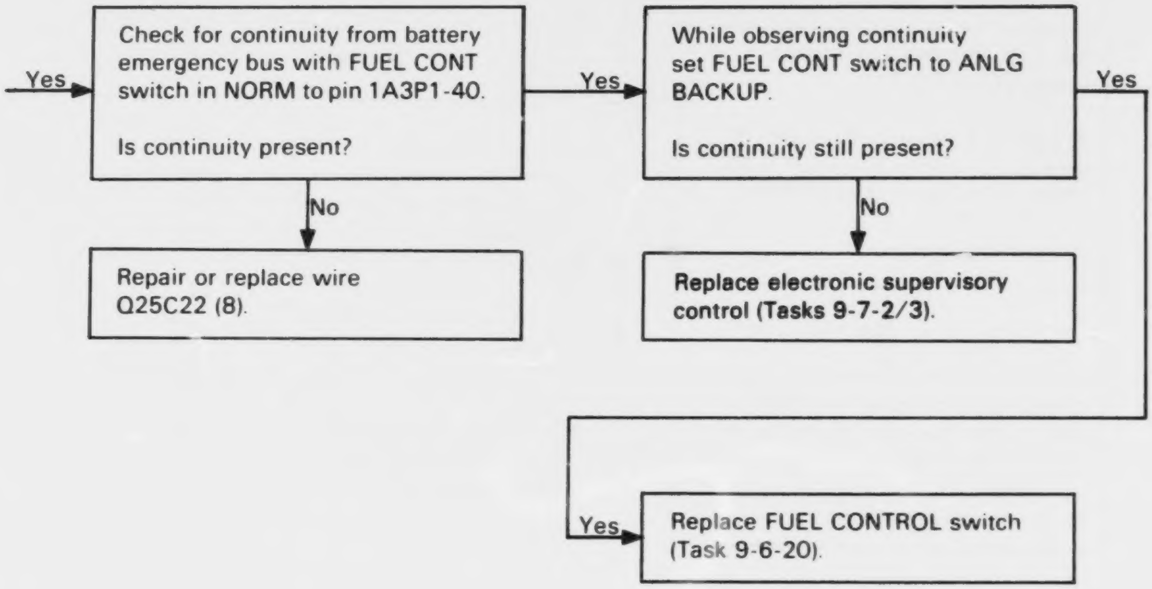
Repair or replace wire Q24B22 (2).

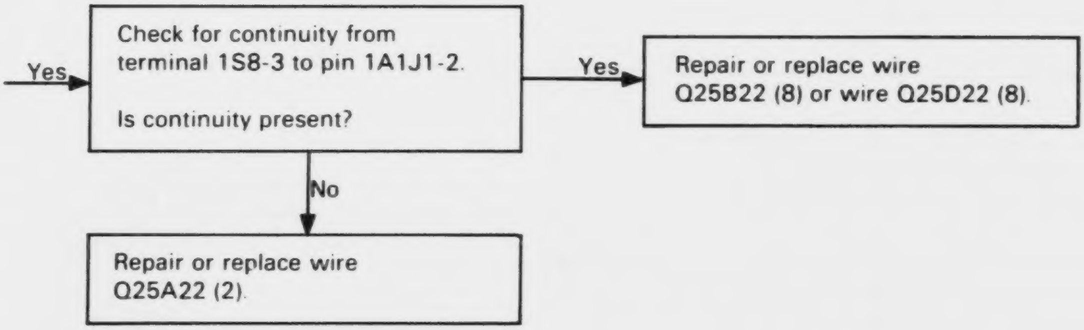
With FUEL CONT switch in NORM check for continuity from terminal 1S8-2 to 1S8-3

Is continuity present?

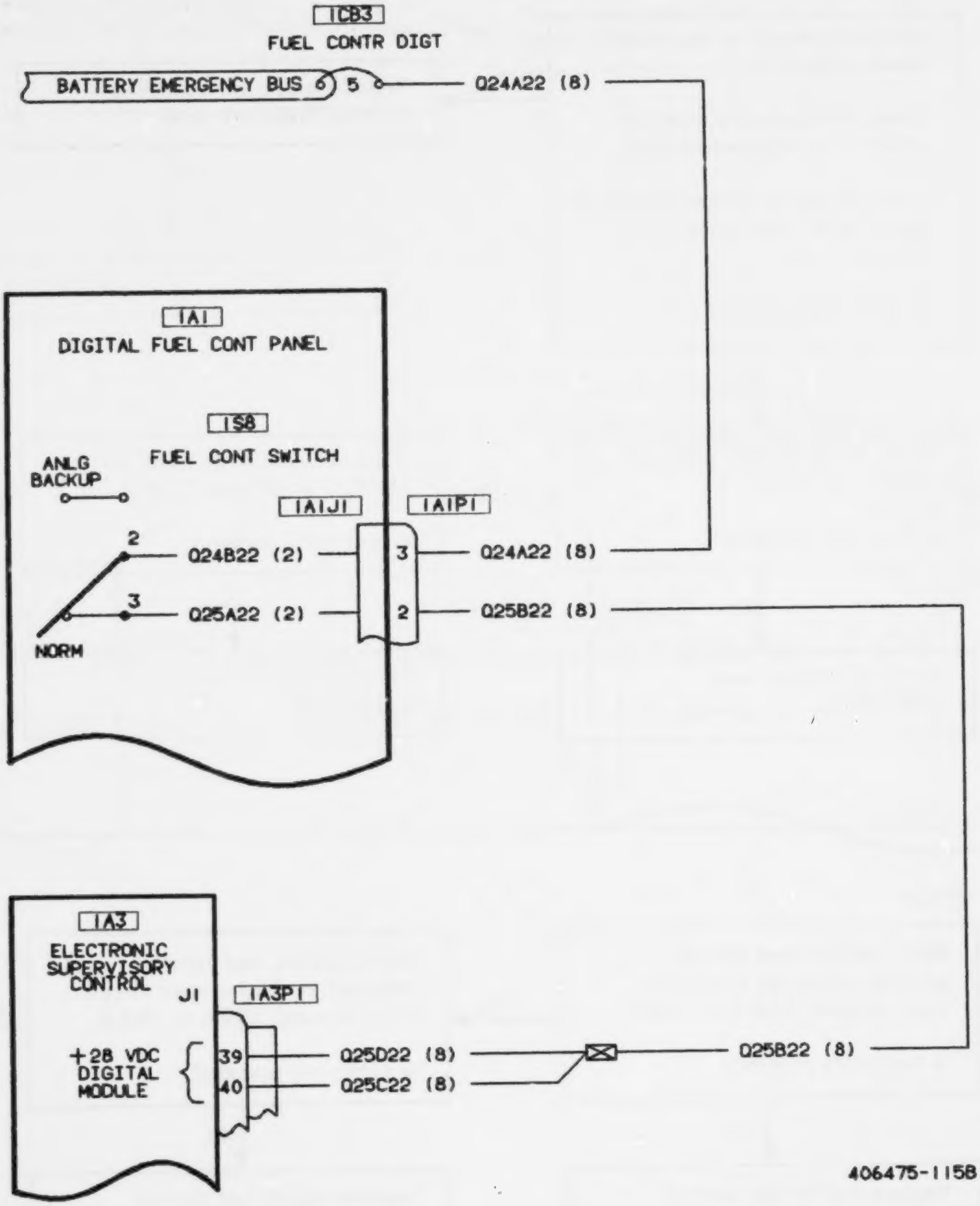
Replace FUEL CONT switch (Task 9-6-20).

145. FUEL CONTROL DOES NOT SWITCH TO ANALOG BACKUP (CONT)

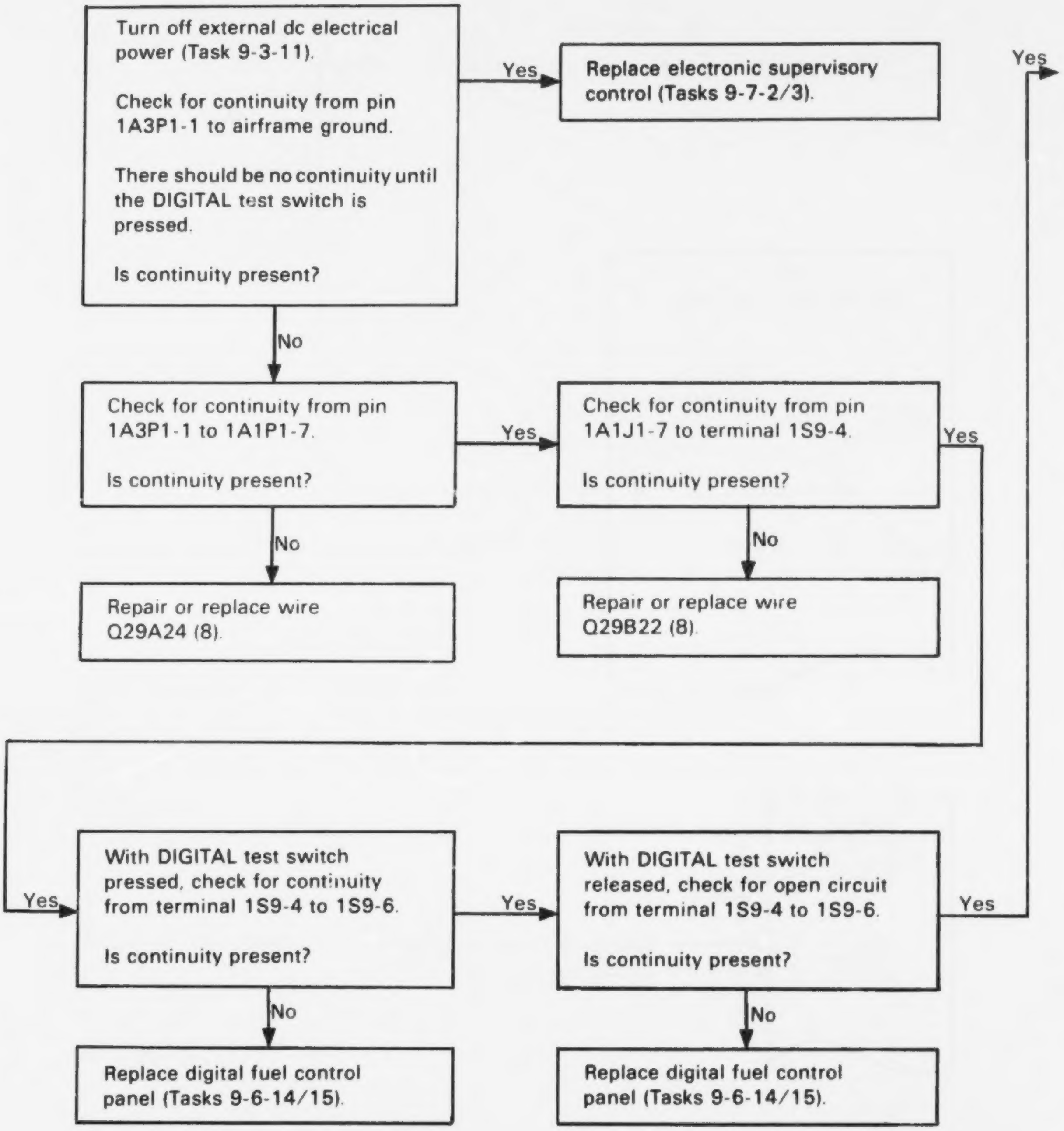

Yes
Check for continuity from battery emergency bus with FUEL CONT switch in NORM to pin 1A3P1-40.
Is continuity present?
Yes
While observing continuity set FUEL CONT switch to ANLG BACKUP.
Is continuity still present?
Yes
No
Repair or replace wire Q25C22 (8).
No
Replace electronic supervisory control (Tasks 9-7-2/3).
Yes
Replace FUEL CONTROL switch (Task 9-6-20).


Yes
Check for continuity from terminal 1S8-3 to pin 1A1J1-2.
Is continuity present?
Yes
Repair or replace wire Q25B22 (8) or wire Q25D22 (8).
No
Repair or replace wire Q25A22 (2).

145. FUEL CONTROL DOES NOT SWITCH TO ANALOG BACKUP (CONT)


1CB3
FUEL CONTR DIGT
BATTERY EMERGENCY BUS
5
Q24A22 (8)
1A1
DIGITAL FUEL CONT PANEL
1S8
FUEL CONT SWITCH
ANLG BACKUP
1A1J1
1A1P1
2
Q24B22 (2)
3
Q24A22 (8)
3
Q25A22 (2)
2
Q25B22 (8)
NORM
1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
+28 VDC DIGITAL MODULE
39
Q25D22 (8)
40
Q25C22 (8)
Q25B22 (8)
406475-1158

146. DIGITAL TEST SWITCH DOES NOT CAUSE ENGINE DECELERATION WHEN PRESSED



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1A3P1-1 to airframe ground.

There should be no continuity until the DIGITAL test switch is pressed.

Is continuity present?

Replace electronic supervisory control (Tasks 9-7-2/3).

Check for continuity from pin 1A3P1-1 to 1A1P1-7.

Is continuity present?

Check for continuity from pin 1A1J1-7 to terminal 1S9-4.

Is continuity present?

Repair or replace wire Q29A24 (8).

Repair or replace wire Q29B22 (8).

With DIGITAL test switch pressed, check for continuity from terminal 1S9-4 to 1S9-6.

Is continuity present?

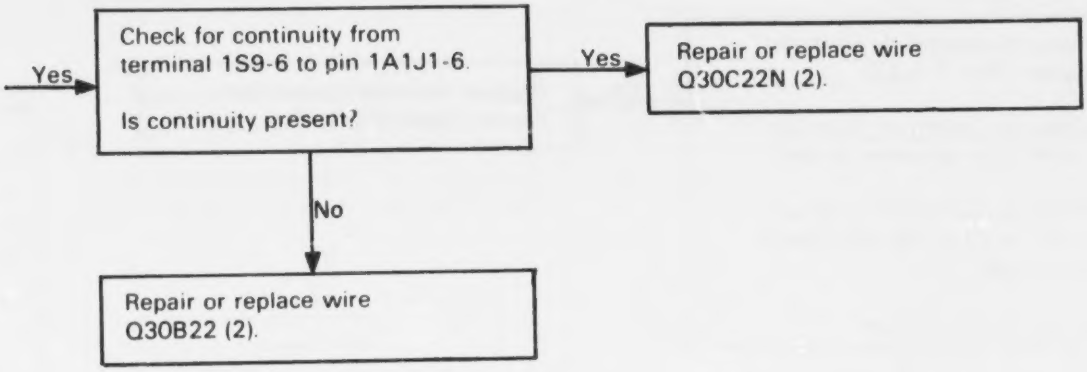
With DIGITAL test switch released, check for open circuit from terminal 1S9-4 to 1S9-6.

Is continuity present?

Replace digital fuel control panel (Tasks 9-6-14/15).

Replace digital fuel control panel (Tasks 9-6-14/15).

146. DIGITAL TEST SWITCH DOES NOT CAUSE ENGINE DECELERATION WHEN PRESSED (CONT)

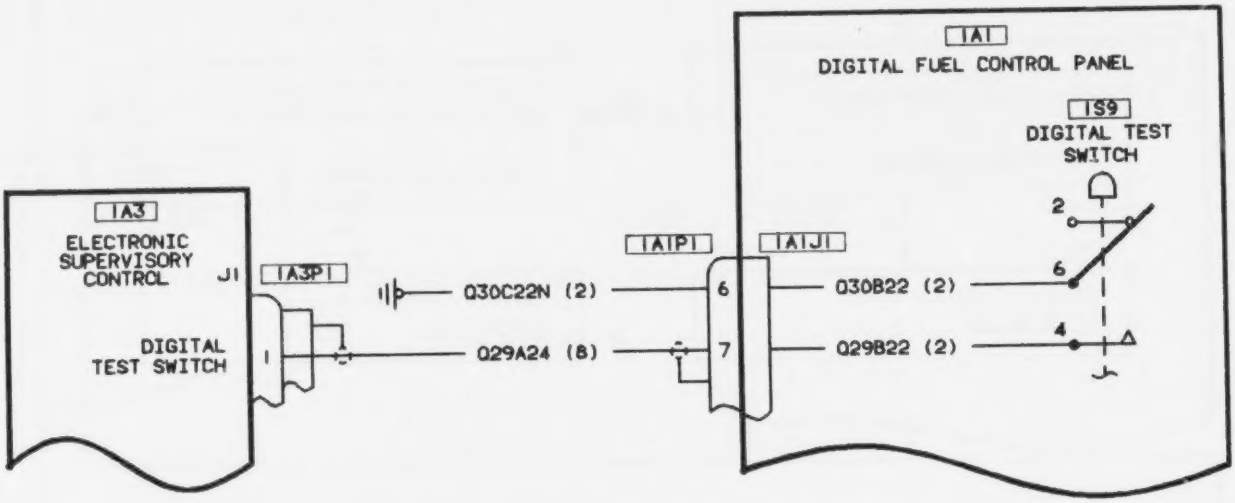


Check for continuity from terminal 1S9-6 to pin 1A1J1-6.

Is continuity present?

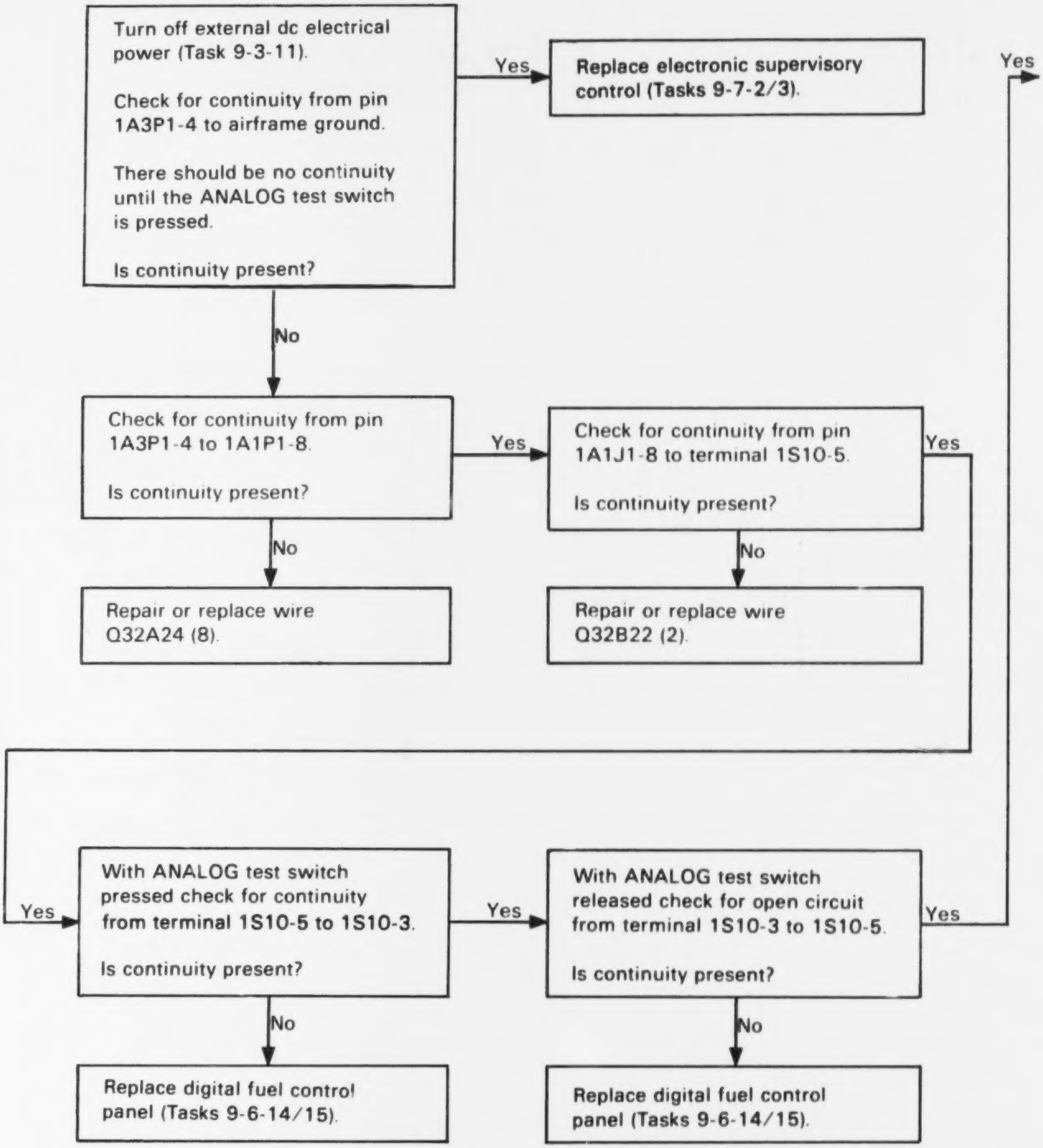
Repair or replace wire Q30C22N (2).

Repair or replace wire Q30B22 (2).

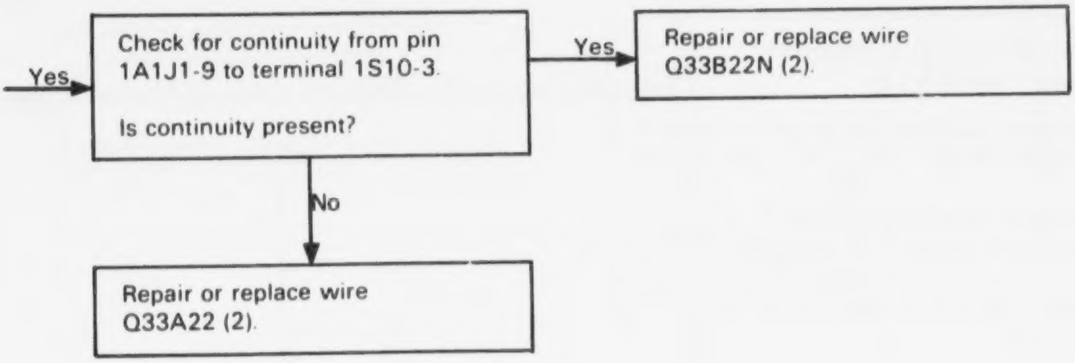

1A1
DIGITAL FUEL CONTROL PANEL
1S9
DIGITAL TEST SWITCH
2
6
4
1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
DIGITAL TEST SWITCH
1
Q30C22N (2)
Q29A24 (8)
1A1P1
1A1J1
6
7
Q30B22 (2)
Q29B22 (2)

406475-116B

147. ANALOG TEST SWITCH DOES NOT CAUSE ENGINE DECELERATION WHEN PRESSED


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 1A3P1-4 to airframe ground.
There should be no continuity until the ANALOG test switch is pressed.
Is continuity present?
Yes
Replace electronic supervisory control (Tasks 9-7-2/3).
Yes
No
Check for continuity from pin 1A3P1-4 to 1A1P1-8.
Is continuity present?
Yes
Check for continuity from pin 1A1J1-8 to terminal 1S10-5.
Is continuity present?
Yes
No
Repair or replace wire Q32A24 (8).
No
Repair or replace wire Q32B22 (2).
Yes
With ANALOG test switch pressed check for continuity from terminal 1S10-5 to 1S10-3.
Is continuity present?
Yes
With ANALOG test switch released check for open circuit from terminal 1S10-3 to 1S10-5.
Is continuity present?
Yes
No
Replace digital fuel control panel (Tasks 9-6-14/15).
No
Replace digital fuel control panel (Tasks 9-6-14/15).

147. ANALOG TEST SWITCH DOES NOT CAUSE ENGINE DECELERATION WHEN PRESSED (CONT)

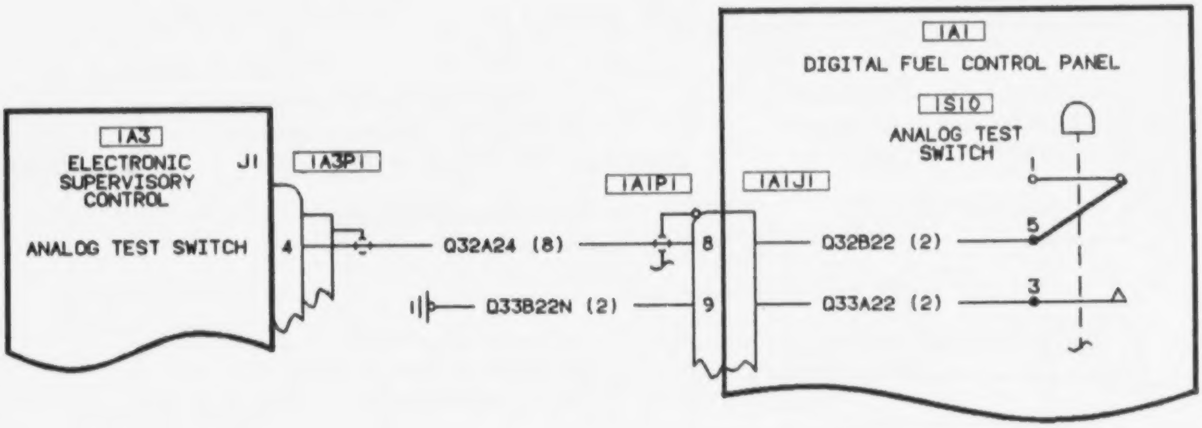


Check for continuity from pin 1A1J1-9 to terminal 1S10-3.

Is continuity present?

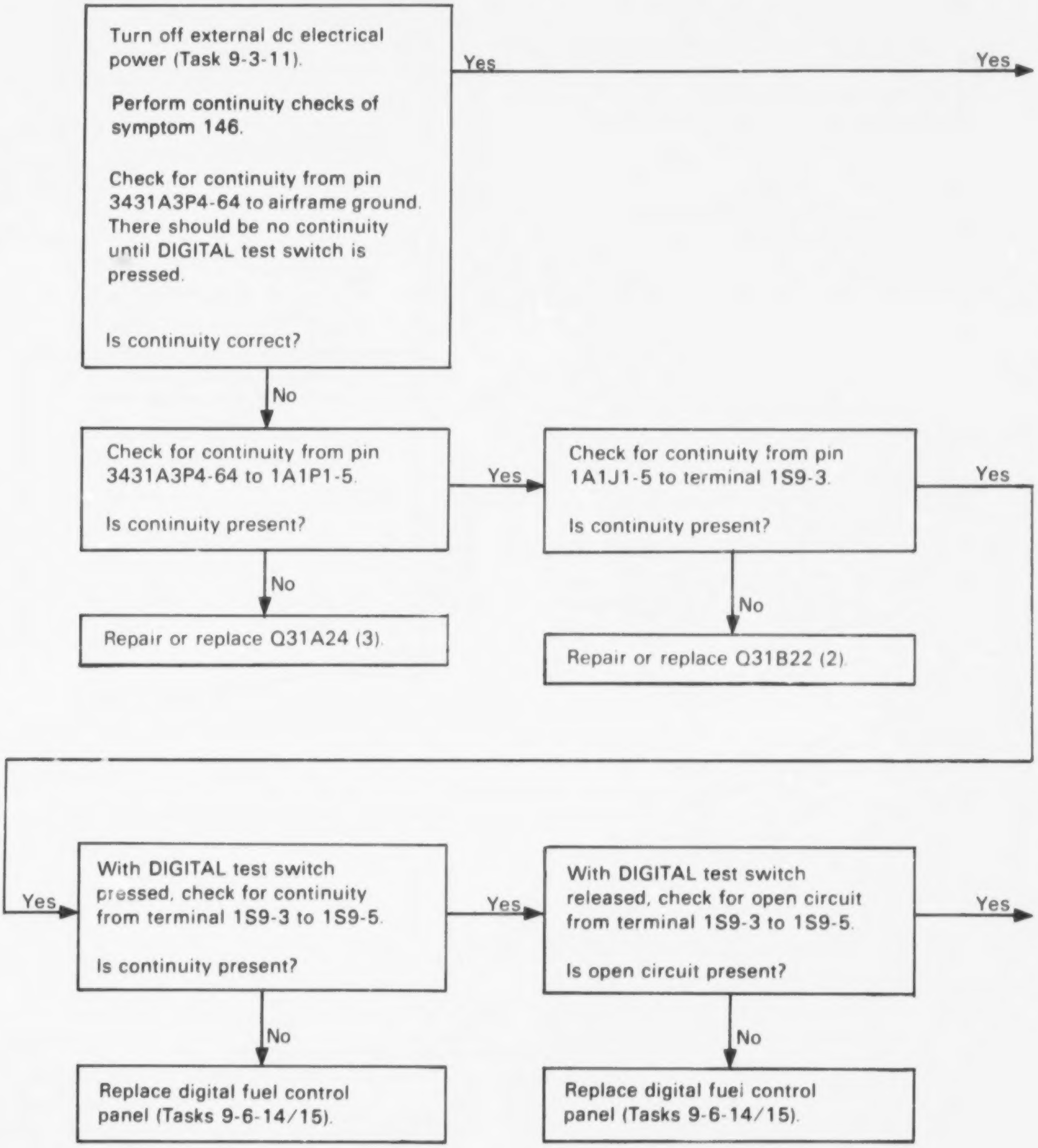
Repair or replace wire Q33B22N (2).

Repair or replace wire Q33A22 (2).


1A1
DIGITAL FUEL CONTROL PANEL
1S10
ANALOG TEST SWITCH
1A3
ELECTRONIC SUPERVISORY CONTROL
ANALOG TEST SWITCH
J1
1A3P1
1A1P1
1A1J1
4
Q32A24 (8)
8
Q32B22 (2)
5
1
Q33B22N (2)
9
Q33A22 (2)
3

406475-1178

148. BIT PAGE DOES NOT DISPLAY GO, NO GO OR FUEL CONTROL ADVISORY AFTER DIGITAL TEST SWITCH IS PRESSED



Turn off external dc electrical power (Task 9-3-11).

Perform continuity checks of symptom 146.

Check for continuity from pin 3431A3P4-64 to airframe ground. There should be no continuity until DIGITAL test switch is pressed.

Is continuity correct?

Check for continuity from pin 3431A3P4-64 to 1A1P1-5.

Is continuity present?

Repair or replace Q31A24 (3).

Check for continuity from pin 1A1J1-5 to terminal 1S9-3.

Is continuity present?

Repair or replace Q31B22 (2).

With DIGITAL test switch pressed, check for continuity from terminal 1S9-3 to 1S9-5.

Is continuity present?

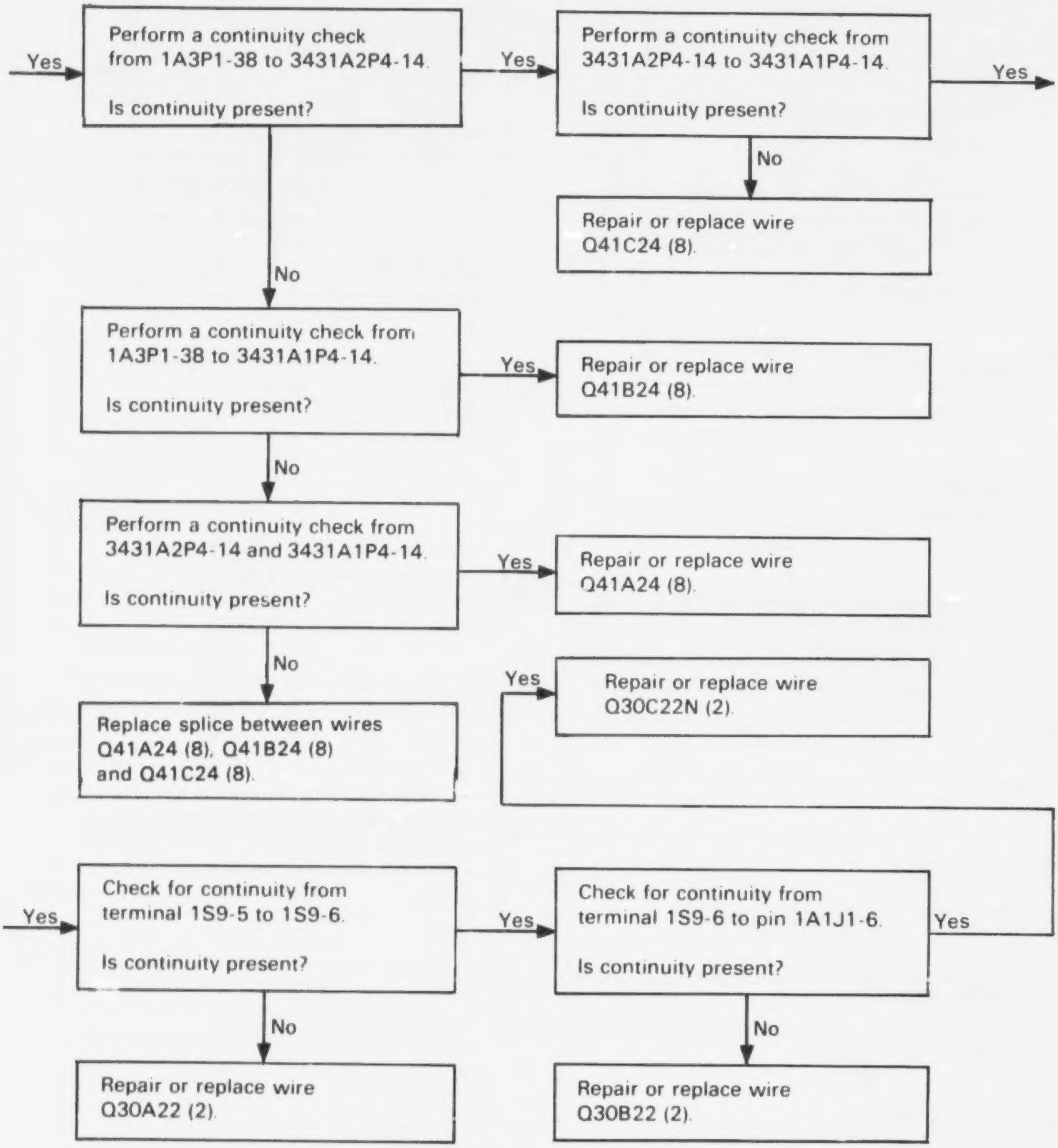
Replace digital fuel control panel (Tasks 9-6-14/15).

With DIGITAL test switch released, check for open circuit from terminal 1S9-3 to 1S9-5.

Is open circuit present?

Replace digital fuel control panel (Tasks 9-6-14/15).

148. BIT PAGE DOES NOT DISPLAY GO, NO GO OR FUEL CONTROL ADVISORY AFTER DIGITAL TEST SWITCH IS PRESSED (CONT)



Perform a continuity check from 1A3P1-38 to 3431A2P4-14.

Is continuity present?

Perform a continuity check from 3431A2P4-14 to 3431A1P4-14.

Is continuity present?

Repair or replace wire Q41C24 (8).

Perform a continuity check from 1A3P1-38 to 3431A1P4-14.

Is continuity present?

Repair or replace wire Q41B24 (8).

Perform a continuity check from 3431A2P4-14 and 3431A1P4-14.

Is continuity present?

Repair or replace wire Q41A24 (8).

Replace splice between wires Q41A24 (8), Q41B24 (8) and Q41C24 (8).

Repair or replace wire Q30C22N (2).

Check for continuity from terminal 1S9-5 to 1S9-6.

Is continuity present?

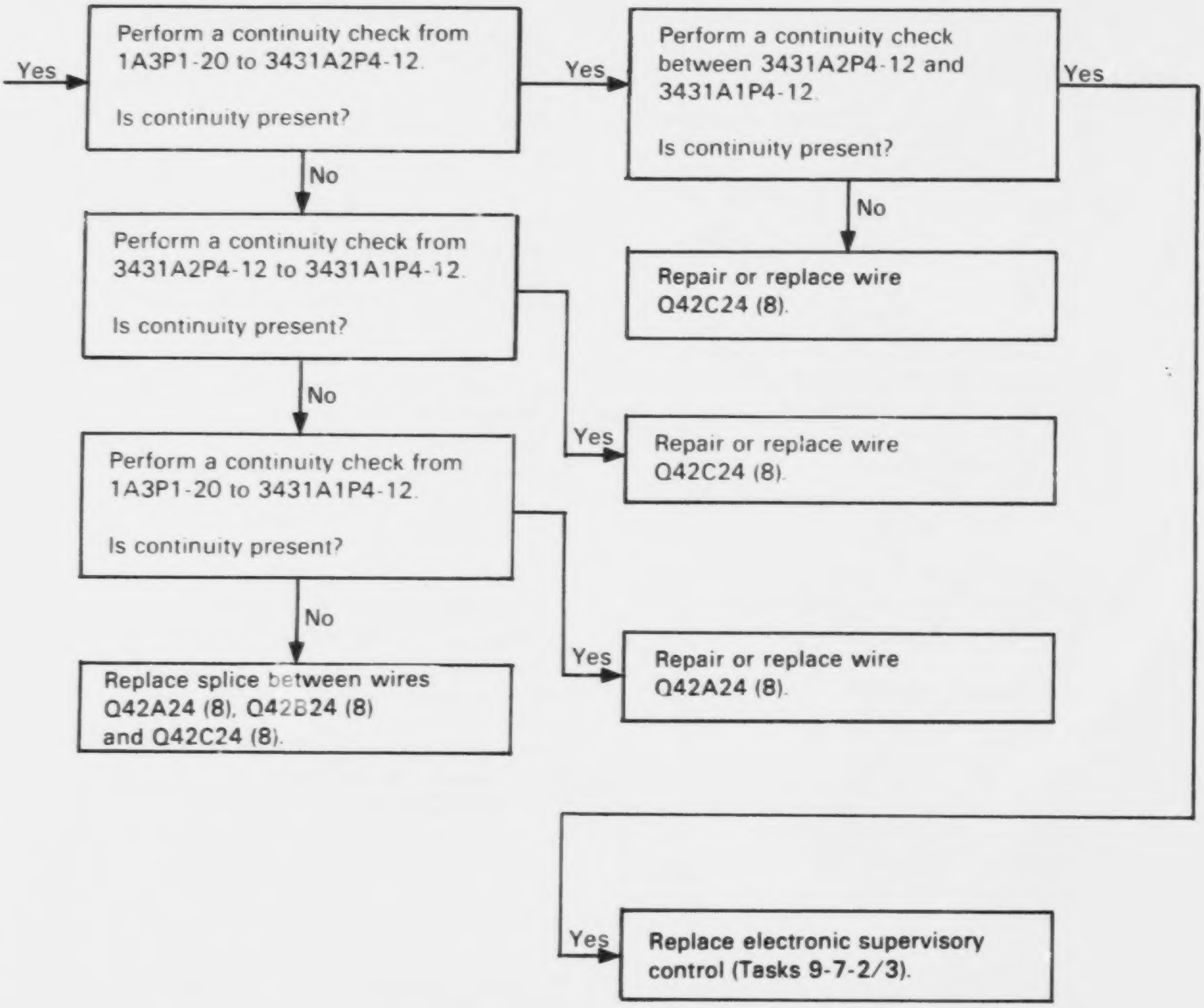
Check for continuity from terminal 1S9-6 to pin 1A1J1-6.

Is continuity present?

Repair or replace wire Q30A22 (2).

Repair or replace wire Q30B22 (2).

148. BIT PAGE DOES NOT DISPLAY GO, NO GO OR FUEL CONTROL ADVISORY AFTER DIGITAL TEST SWITCH IS PRESSED (CONT)



Perform a continuity check from 1A3P1-20 to 3431A2P4-12.

Is continuity present?

Perform a continuity check between 3431A2P4-12 and 3431A1P4-12.

Is continuity present?

Repair or replace wire Q42C24 (8).

Perform a continuity check from 3431A2P4-12 to 3431A1P4-12.

Is continuity present?

Repair or replace wire Q42C24 (8).

Perform a continuity check from 1A3P1-20 to 3431A1P4-12.

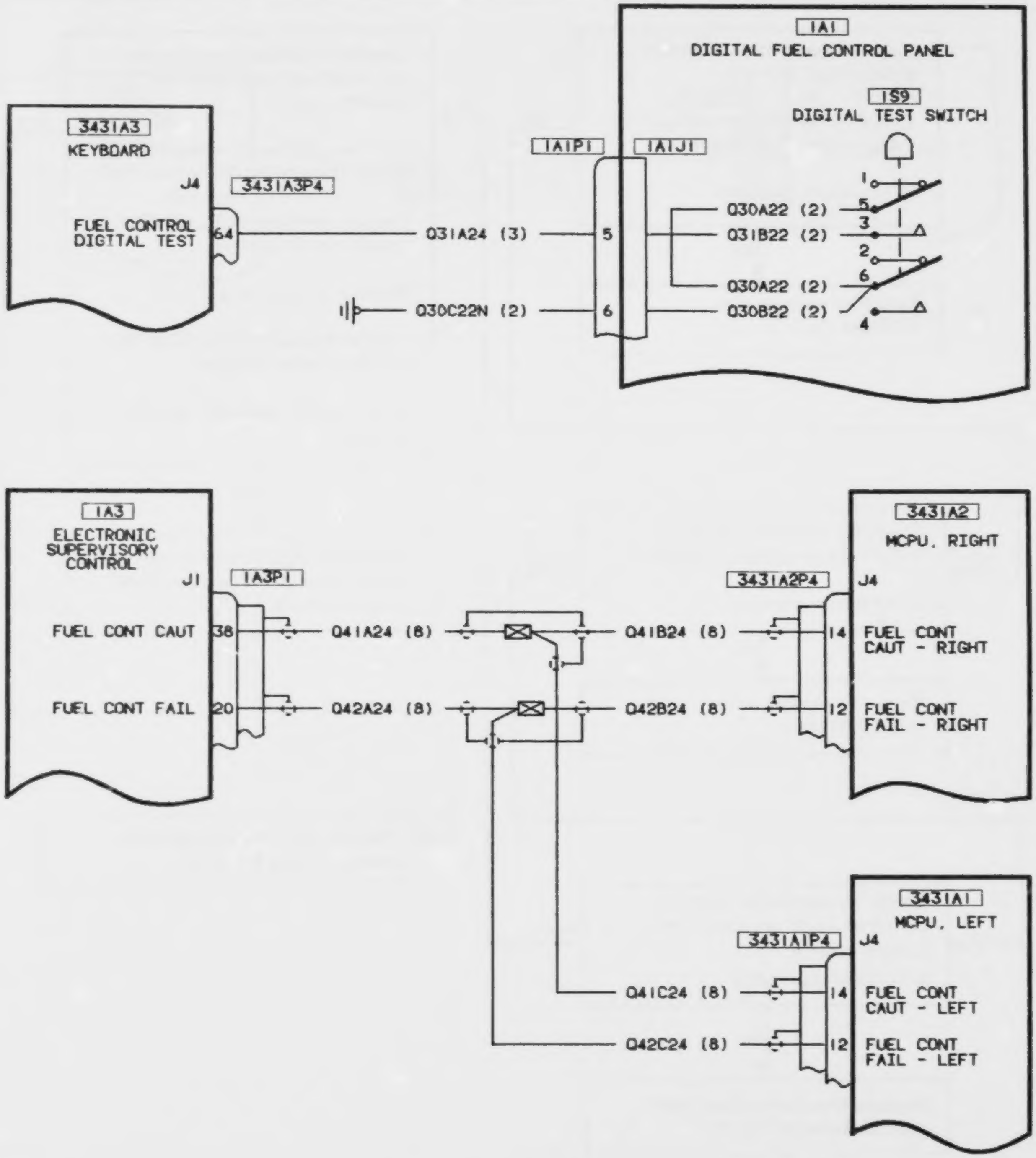
Is continuity present?

Repair or replace wire Q42A24 (8).

Replace splice between wires Q42A24 (8), Q42B24 (8) and Q42C24 (8).

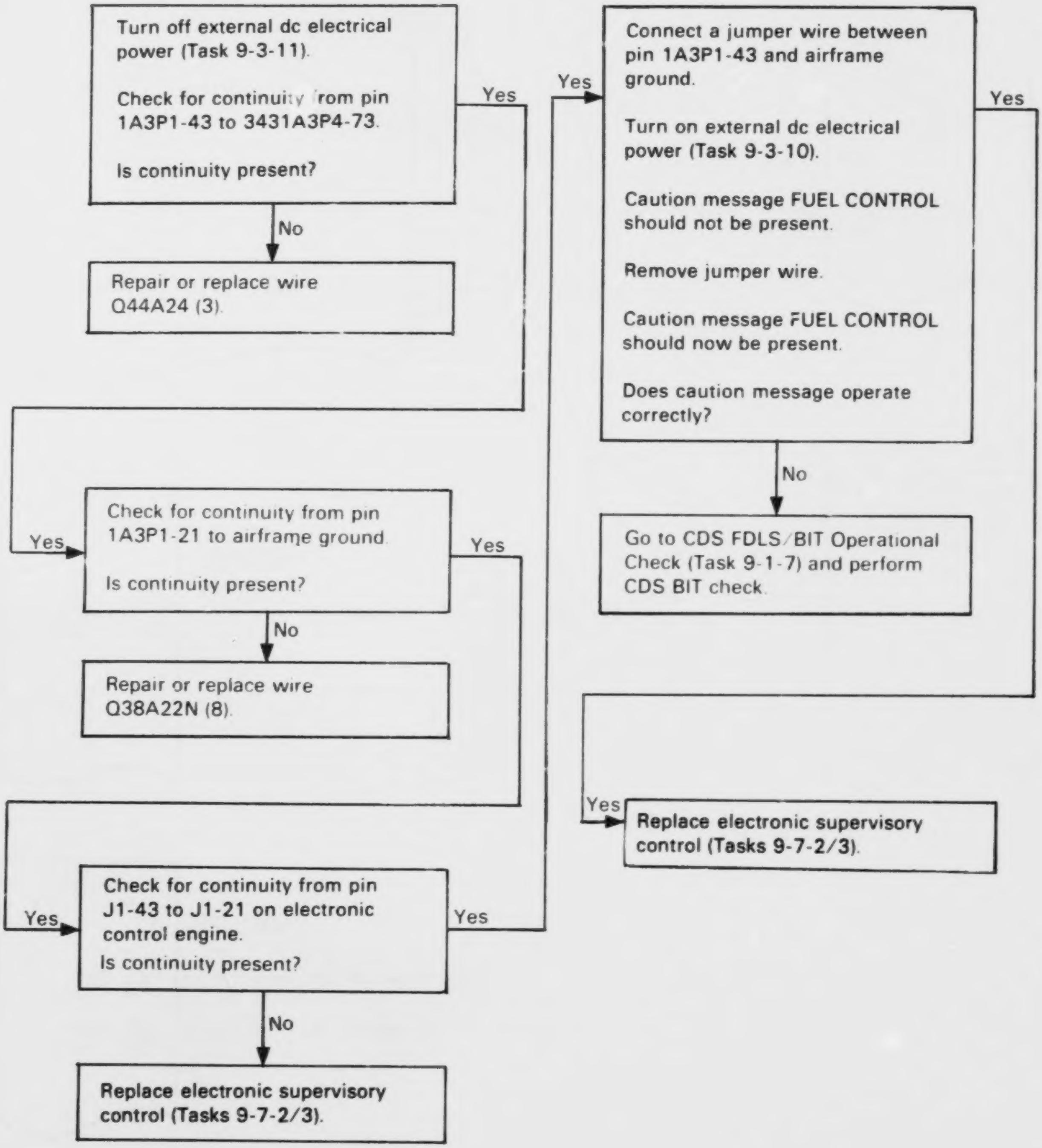
Replace electronic supervisory control (Tasks 9-7-2/3).

148. BIT PAGE DOES NOT DISPLAY GO, NO GO OR FUEL CONTROL ADVISORY AFTER DIGITAL TEST SWITCH IS PRESSED (CONT)


1A1
DIGITAL FUEL CONTROL PANEL
1S9
DIGITAL TEST SWITCH
3431A3
KEYBOARD
J4
3431A3P4
FUEL CONTROL DIGITAL TEST
64
1A1P1
1A1J1
Q31A24 (3)
5
Q30C22N (2)
6
Q30A22 (2)
Q31B22 (2)
Q30A22 (2)
Q30B22 (2)
1
5
3
2
6
4
1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
FUEL CONT CAUT
38
FUEL CONT FAIL
20
Q41A24 (8)
Q42A24 (8)
Q41B24 (8)
Q42B24 (8)
3431A2
MCPU, RIGHT
3431A2P4
J4
14
FUEL CONT CAUT - RIGHT
12
FUEL CONT FAIL - RIGHT
3431A1
MCPU, LEFT
3431A1P4
J4
Q41C24 (8)
14
FUEL CONT CAUT - LEFT
Q42C24 (8)
12
FUEL CONT FAIL - LEFT

406475-118B

149. CAUTION MESSAGE FUEL CONTROL DOES NOT COME ON (CONNECTOR 1A3P1 DISCONNECTED)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1A3P1-43 to 3431A3P4-73.

Is continuity present?

Repair or replace wire Q44A24 (3).

Check for continuity from pin 1A3P1-21 to airframe ground.

Is continuity present?

Repair or replace wire Q38A22N (8).

Check for continuity from pin J1-43 to J1-21 on electronic control engine.

Is continuity present?

Replace electronic supervisory control (Tasks 9-7-2/3).

Connect a jumper wire between pin 1A3P1-43 and airframe ground.

Turn on external dc electrical power (Task 9-3-10).

Caution message FUEL CONTROL should not be present.

Remove jumper wire.

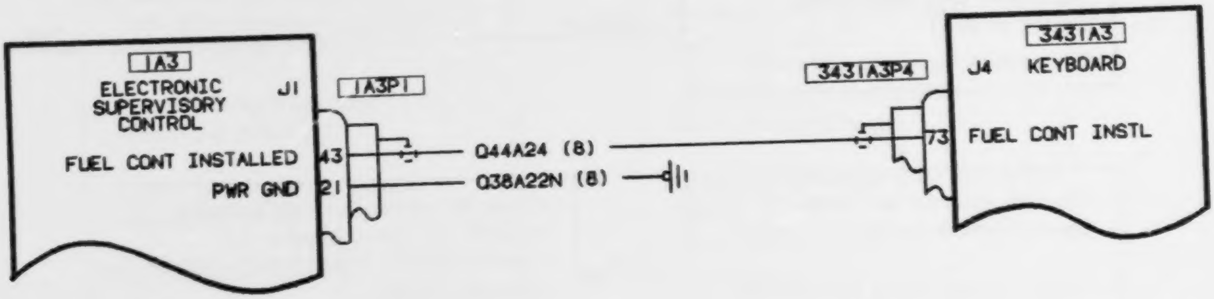
Caution message FUEL CONTROL should now be present.

Does caution message operate correctly?

Go to CDS FDLS/BIT Operational Check (Task 9-1-7) and perform CDS BIT check.

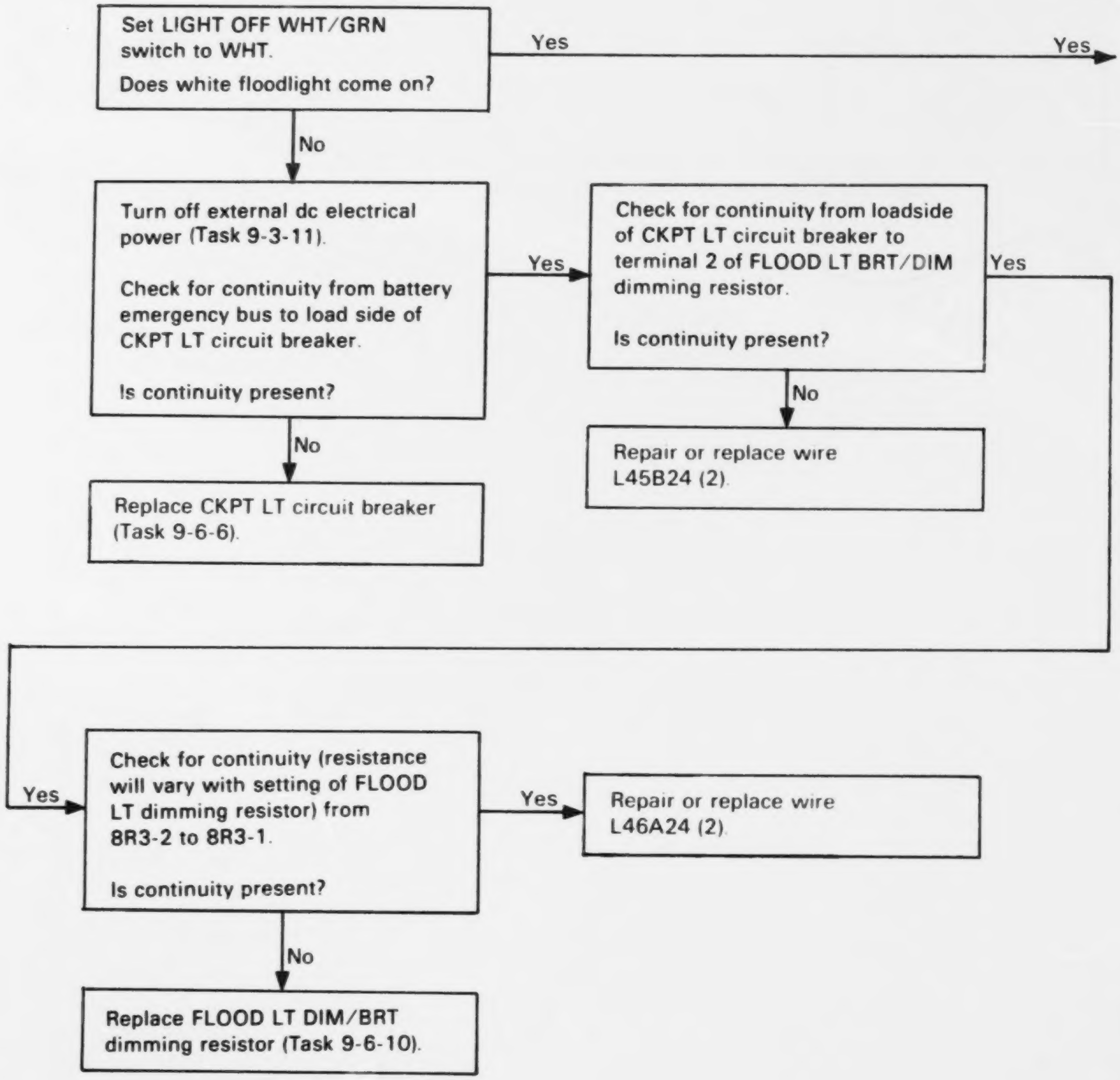
Replace electronic supervisory control (Tasks 9-7-2/3).

149. CAUTION MESSAGE FUEL CONTROL DOES NOT COME ON (CONNECTOR 1A3P1 DISCONNECTED) (CONT)


1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
FUEL CONT INSTALLED
43
PWR GND
21
Q44A24 (8)
Q38A22N (8)
3431A3P4
3431A3
J4
KEYBOARD
73
FUEL CONT INSTL

406475-119B

150. GREEN FLOODLIGHT DOES NOT COME ON



Set LIGHT OFF WHT/GRN switch to WHT.

Does white floodlight come on?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from battery emergency bus to load side of CKPT LT circuit breaker.

Is continuity present?

Replace CKPT LT circuit breaker (Task 9-6-6).

Check for continuity from loadside of CKPT LT circuit breaker to terminal 2 of FLOOD LT BRT/DIM dimming resistor.

Is continuity present?

Repair or replace wire L45B24 (2).

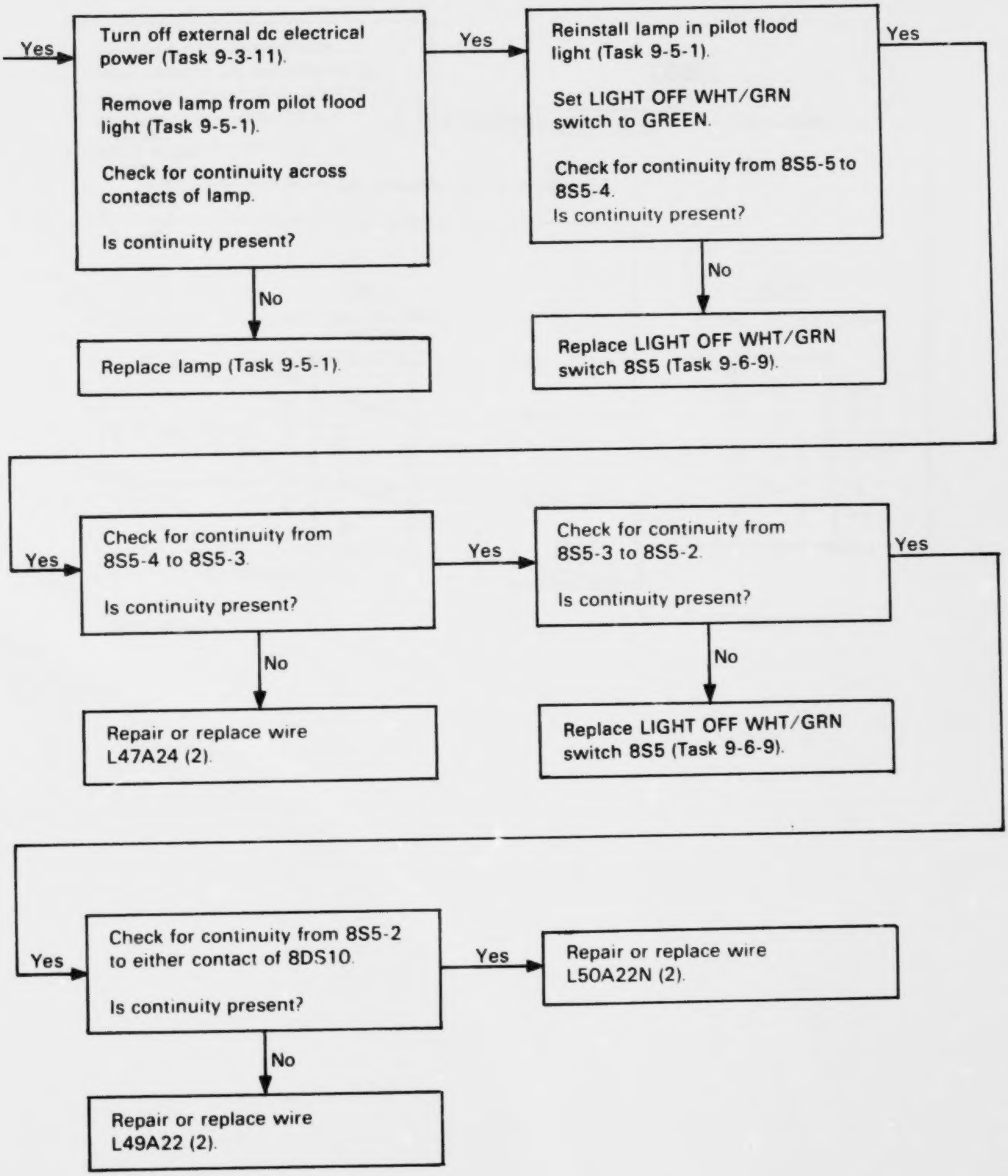
Check for continuity (resistance will vary with setting of FLOOD LT dimming resistor) from 8R3-2 to 8R3-1.

Is continuity present?

Repair or replace wire L46A24 (2).

Replace FLOOD LT DIM/BRT dimming resistor (Task 9-6-10).

150. GREEN FLOODLIGHT DOES NOT COME ON (CONT)



Turn off external dc electrical power (Task 9-3-11).

Remove lamp from pilot flood light (Task 9-5-1).

Check for continuity across contacts of lamp.

Is continuity present?

Replace lamp (Task 9-5-1).

Reinstall lamp in pilot flood light (Task 9-5-1).

Set LIGHT OFF WHT/GRN switch to GREEN.

Check for continuity from 8S5-5 to 8S5-4.
Is continuity present?

Replace LIGHT OFF WHT/GRN switch 8S5 (Task 9-6-9).

Check for continuity from 8S5-4 to 8S5-3.

Is continuity present?

Repair or replace wire L47A24 (2).

Check for continuity from 8S5-3 to 8S5-2.

Is continuity present?

Replace LIGHT OFF WHT/GRN switch 8S5 (Task 9-6-9).

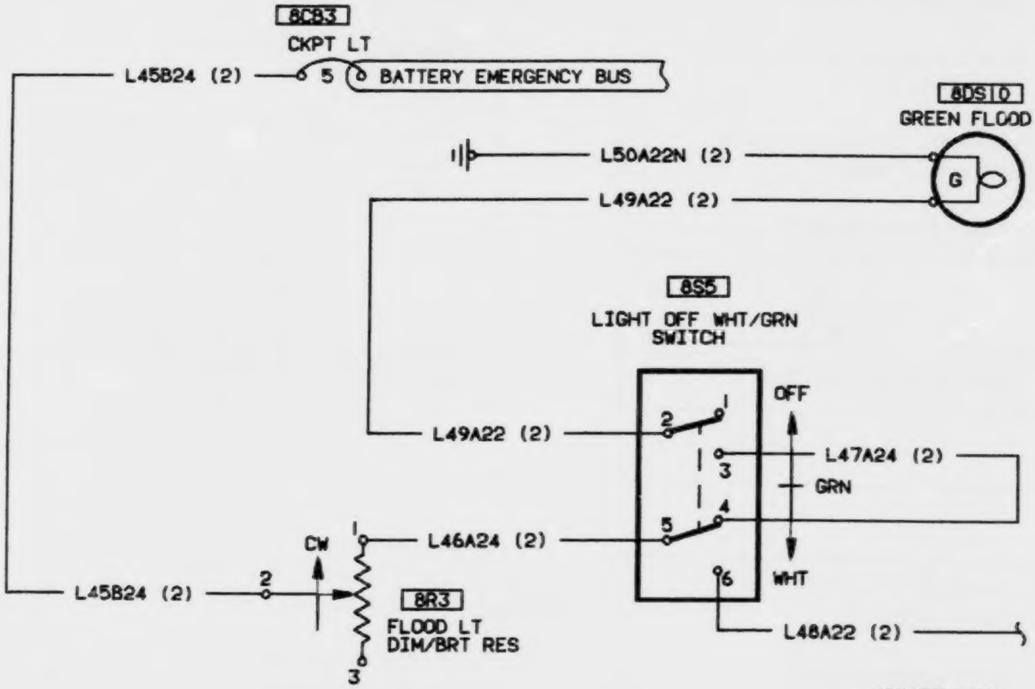
Check for continuity from 8S5-2 to either contact of 8DS10.

Is continuity present?

Repair or replace wire L50A22N (2).

Repair or replace wire L49A22 (2).

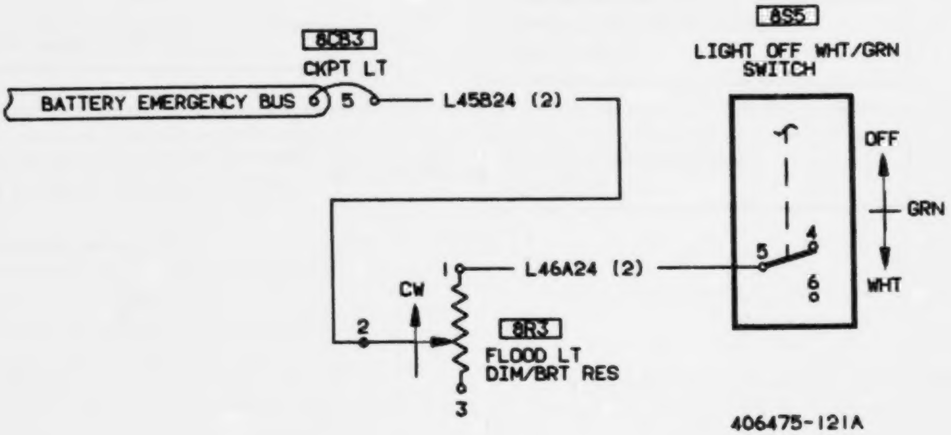
150. GREEN FLOODLIGHT DOES NOT COME ON (CONT)


8CB3
CKPT LT
L45B24 (2)
5
BATTERY EMERGENCY BUS
8DS10
GREEN FLOOD LT
L50A22N (2)
G
L49A22 (2)
8S5
LIGHT OFF WHT/GRN SWITCH
OFF
1
2
L49A22 (2)
3
L47A24 (2)
GRN
4
5
L46A24 (2)
6
WHT
L48A22 (2)
CW
1
2
L45B24 (2)
8R3
FLOOD LT DIM/BRT RES
3

406475-120A

151. GREEN AND WHITE FLOOD LT CONTROL IS REVERSED WHEN TURNED FROM DIM TO BRT

Reversed wire connections.
Wire L45B24 (2) connects to terminal 8R3-2 and wire L46A24 (2) connects to terminal 8R3-1.

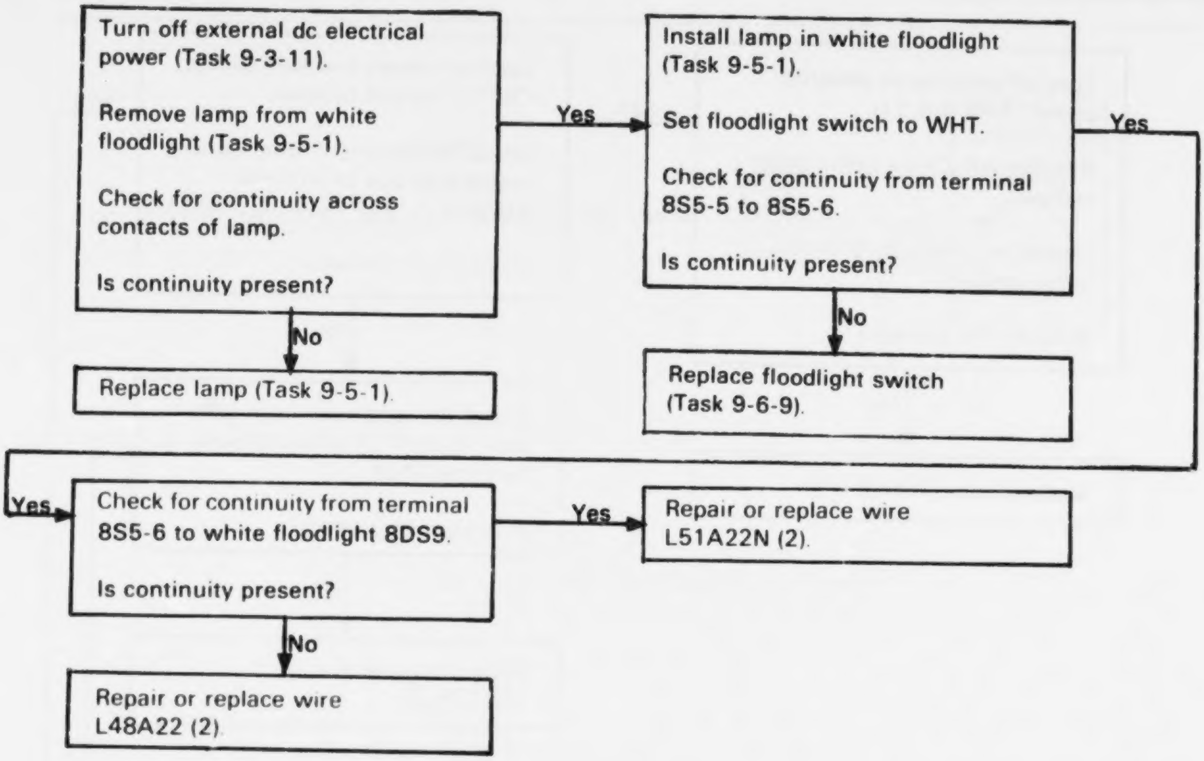

8CB3
CKPT LT
BATTERY EMERGENCY BUS
6
5
L45B24 (2)
8S5
LIGHT OFF WHT/GRN SWITCH
OFF
GRN
WHT
4
5
6
1
L46A24 (2)
CW
2
8R3
FLOOD LT DIM/BRT RES
3

406475-121A

152. GREEN FLOODLIGHT DOES NOT GO OFF WHEN FLOOD LT SWITCH IS SET TO WHITE

Replace LIGHT OFF WHT/GRN switch 8S5 (Task 9-6-9).

153. WHITE FLOODLIGHT DOES NOT COME ON WHEN FLOODLIGHT SWITCH IS SET TO WHT



Turn off external dc electrical power (Task 9-3-11).

Remove lamp from white floodlight (Task 9-5-1).

Check for continuity across contacts of lamp.

Is continuity present?

No: Replace lamp (Task 9-5-1).

Yes: Install lamp in white floodlight (Task 9-5-1).

Set floodlight switch to WHT.

Check for continuity from terminal 8S5-5 to 8S5-6.

Is continuity present?

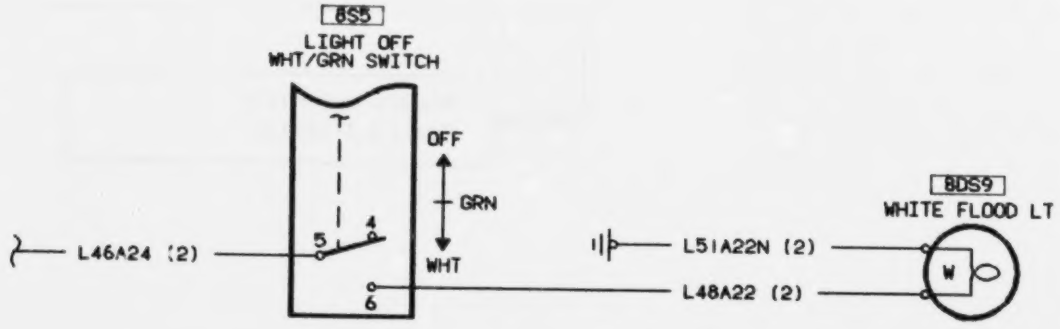
No: Replace floodlight switch (Task 9-6-9).

Yes: Check for continuity from terminal 8S5-6 to white floodlight 8DS9.

Is continuity present?

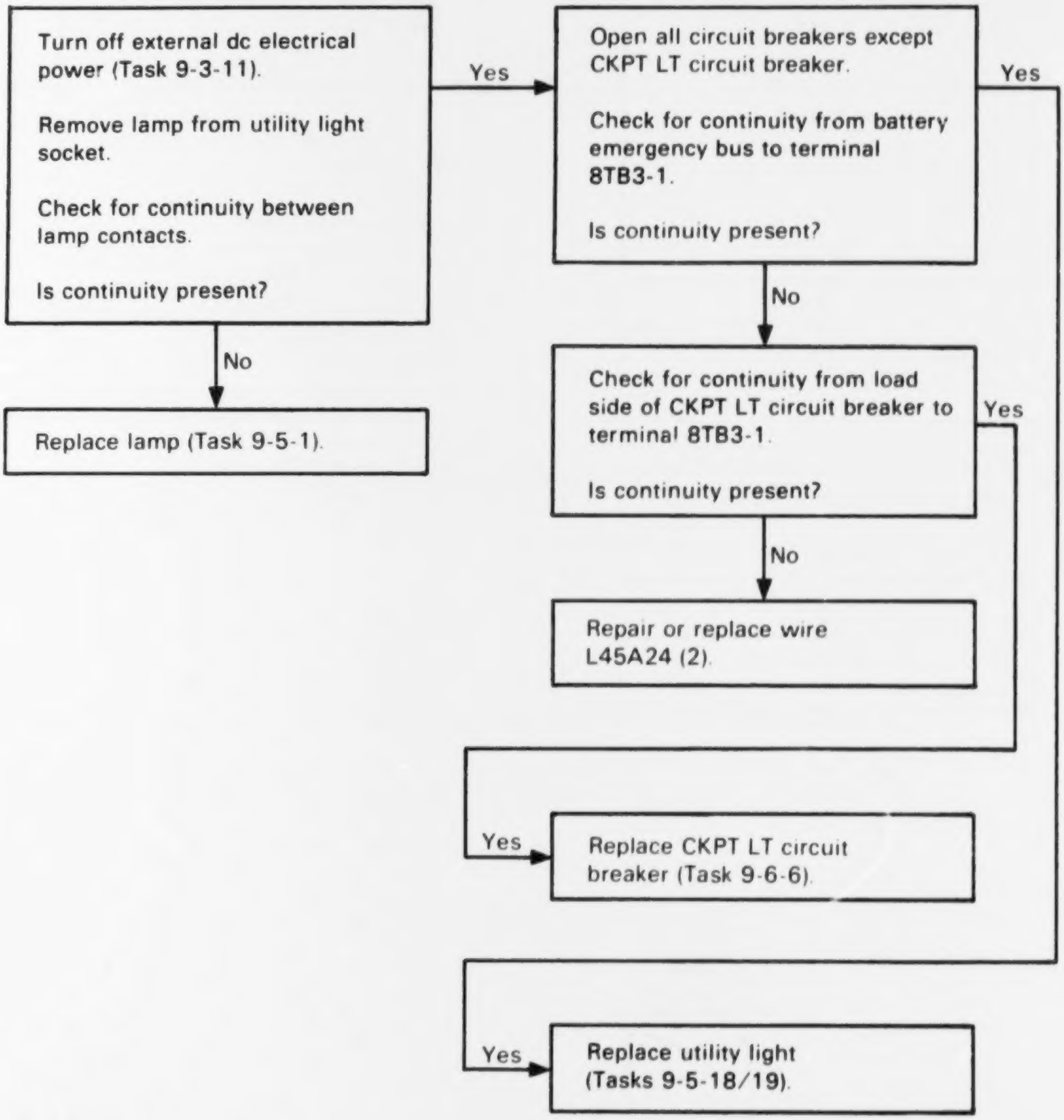
Yes: Repair or replace wire L51A22N (2).

No: Repair or replace wire L48A22 (2).


8S5
LIGHT OFF
WHT/GRN SWITCH
OFF
GRN
WHT
4
5
6
L46A24 (2)
L51A22N (2)
L48A22 (2)
8DS9
WHITE FLOOD LT
W

406475-123B

154. UTILITY LIGHT DOES NOT COME ON WHEN MOMENTARY SWITCH ON BACK OF LIGHT IS PRESSED



Turn off external dc electrical power (Task 9-3-11).

Remove lamp from utility light socket.

Check for continuity between lamp contacts.

Is continuity present?

Replace lamp (Task 9-5-1).

Open all circuit breakers except CKPT LT circuit breaker.

Check for continuity from battery emergency bus to terminal 8TB3-1.

Is continuity present?

Check for continuity from load side of CKPT LT circuit breaker to terminal 8TB3-1.

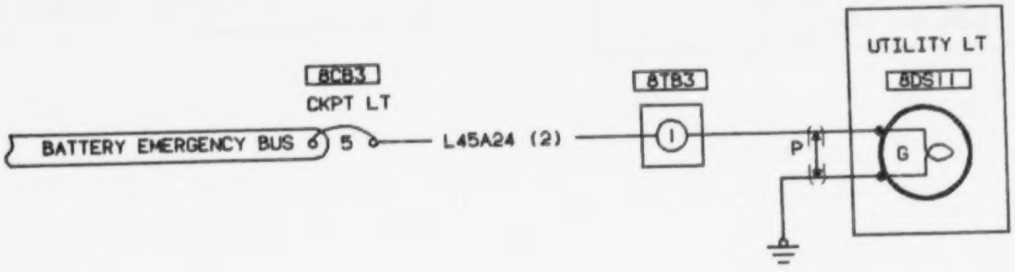
Is continuity present?

Repair or replace wire L45A24 (2).

Replace CKPT LT circuit breaker (Task 9-6-6).

Replace utility light (Tasks 9-5-18/19).

154. UTILITY LIGHT DOES NOT COME ON WHEN MOMENTARY SWITCH ON BACK OF LIGHT IS PRESSED (CONT)


8CB3
CKPT LT
BATTERY EMERGENCY BUS
5
L45A24 (2)
8TB3
1
P
UTILITY LT
8DS11
G

406475-124A

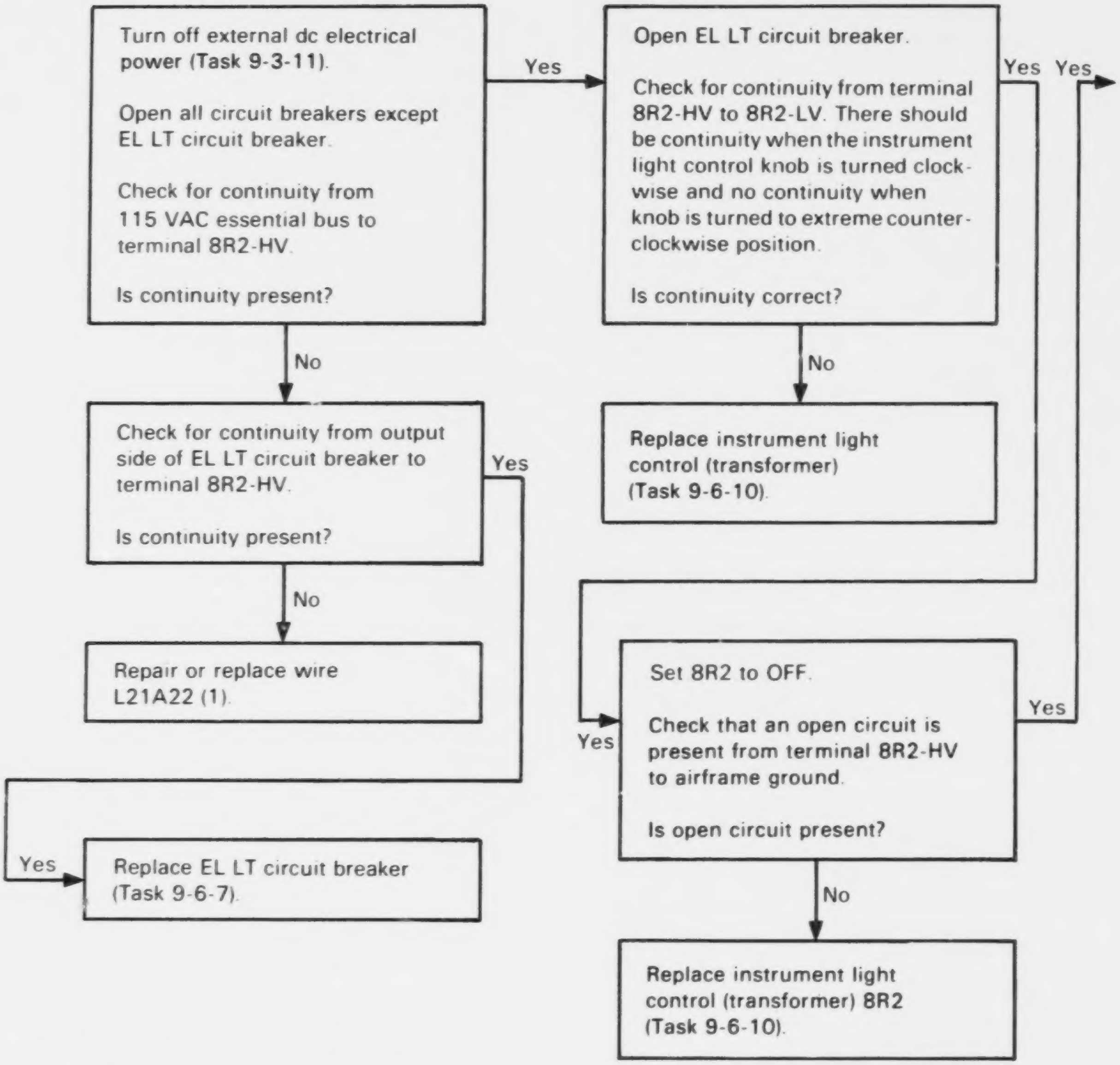
155. UTILITY LIGHT BRIGHTNESS CANNOT BE CONTROLLED WITH RHEOSTAT AT REAR OF LAMP

Replace utility light assembly (Tasks 9-5-18/19).

156. UTILITY LIGHT WILL NOT FOCUS FROM SPOT TO FLOOD WHEN TURNING FRONT OF LIGHT ASSEMBLY

Replace utility light assembly (Tasks 9-5-18/19).

157. INSTRUMENT LIGHTS DO NOT COME ON WHEN INST LT CONTROL IS TURNED CLOCKWISE FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Open all circuit breakers except EL LT circuit breaker.

Check for continuity from 115 VAC essential bus to terminal 8R2-HV.

Is continuity present?

Open EL LT circuit breaker.

Check for continuity from terminal 8R2-HV to 8R2-LV. There should be continuity when the instrument light control knob is turned clockwise and no continuity when knob is turned to extreme counterclockwise position.

Is continuity correct?

Check for continuity from output side of EL LT circuit breaker to terminal 8R2-HV.

Is continuity present?

Replace instrument light control (transformer) (Task 9-6-10).

Repair or replace wire L21A22 (1).

Set 8R2 to OFF.

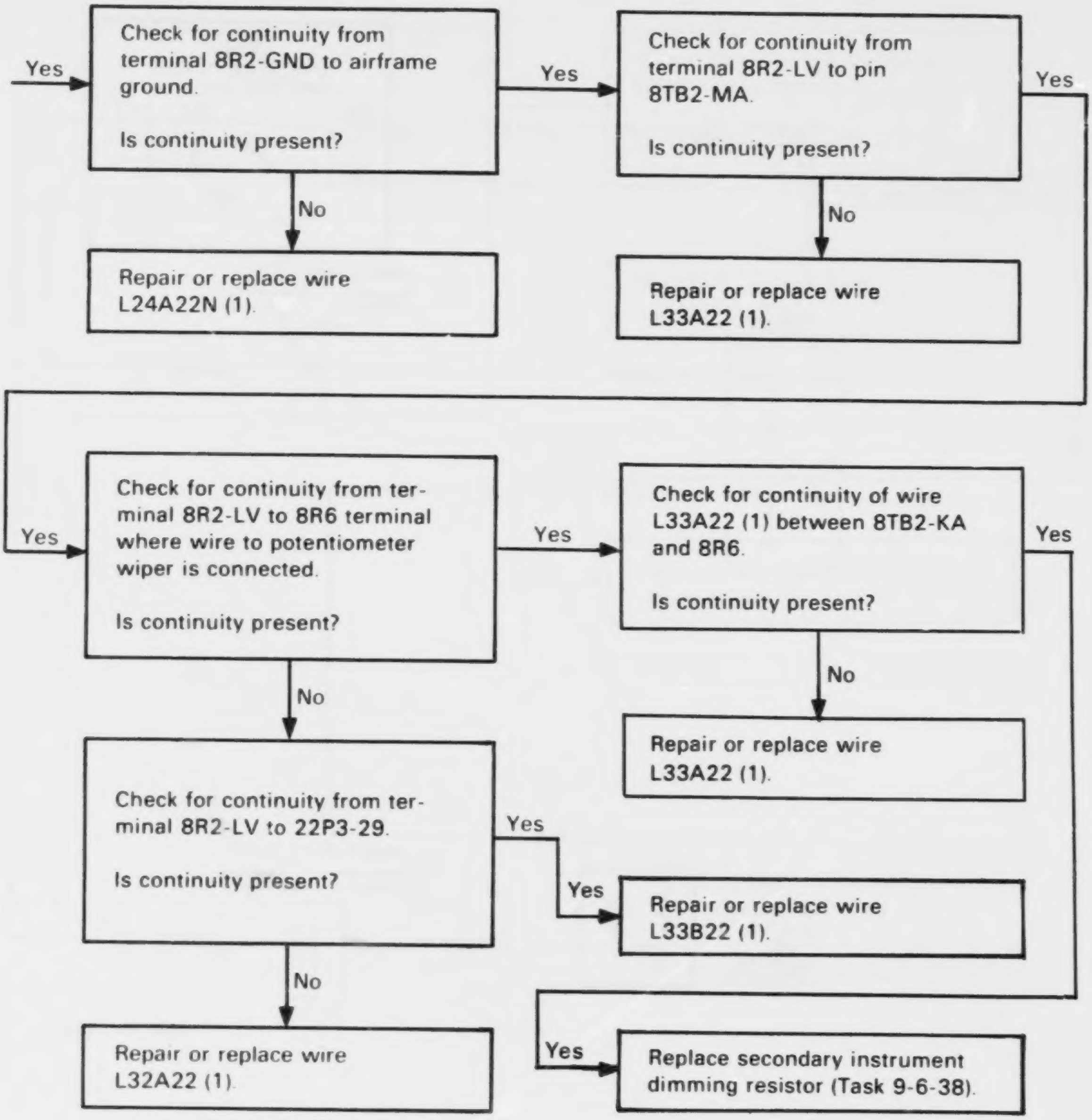
Check that an open circuit is present from terminal 8R2-HV to airframe ground.

Is open circuit present?

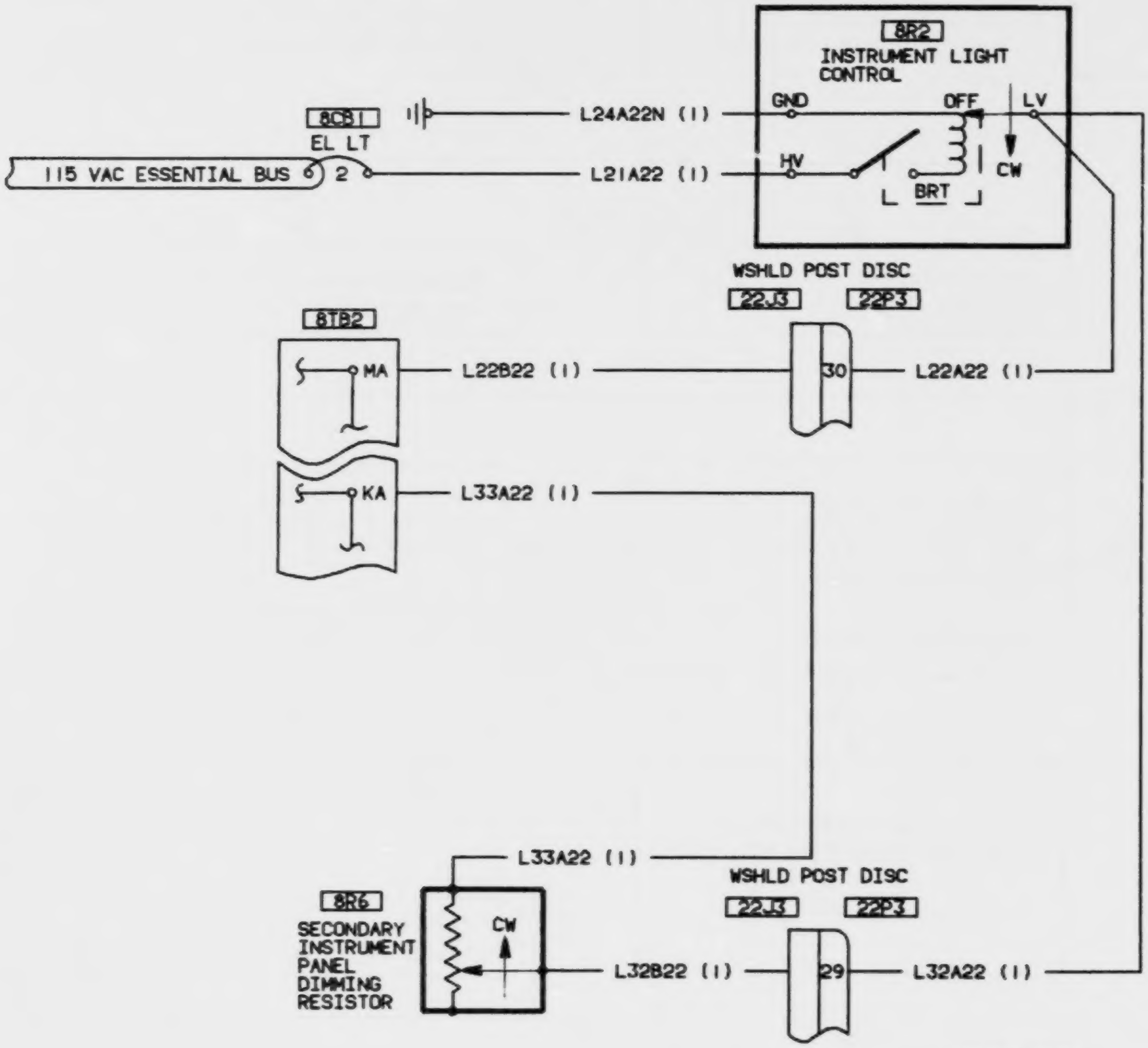
Replace EL LT circuit breaker (Task 9-6-7).

Replace instrument light control (transformer) 8R2 (Task 9-6-10).

157. INSTRUMENT LIGHTS DO NOT COME ON WHEN INST LT CONTROL IS TURNED CLOCKWISE FROM OFF TO BRT (CONT)

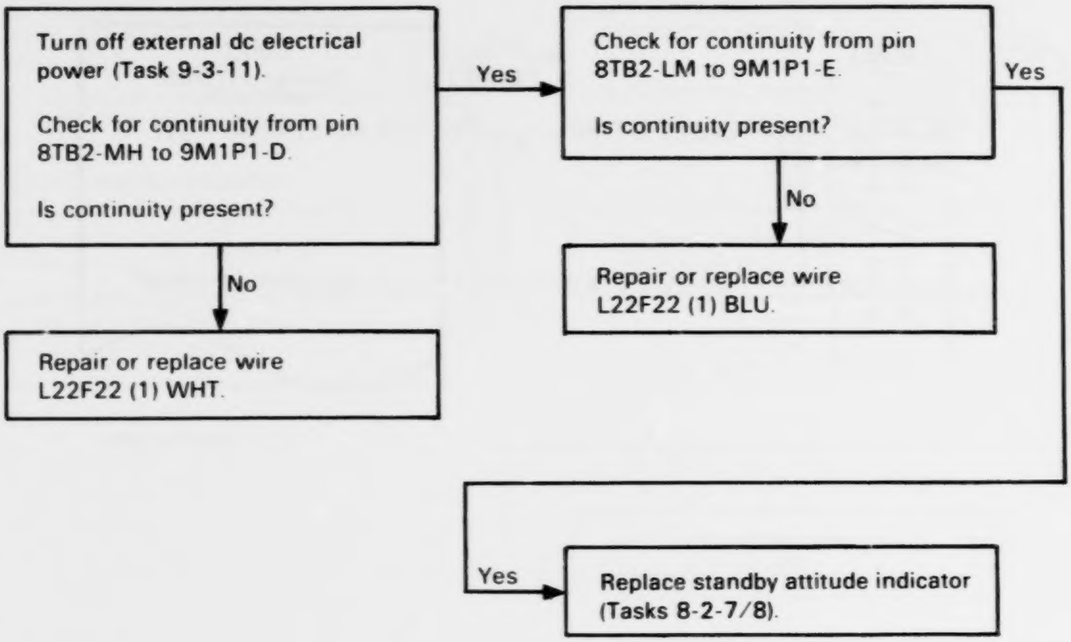

Yes
Check for continuity from terminal 8R2-GND to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire L24A22N (1).
Check for continuity from terminal 8R2-LV to pin 8TB2-MA.
Is continuity present?
Yes
No
Repair or replace wire L33A22 (1).
Yes
Check for continuity from terminal 8R2-LV to 8R6 terminal where wire to potentiometer wiper is connected.
Is continuity present?
Yes
No
Check for continuity of wire L33A22 (1) between 8TB2-KA and 8R6.
Is continuity present?
Yes
No
Repair or replace wire L33A22 (1).
Check for continuity from terminal 8R2-LV to 22P3-29.
Is continuity present?
Yes
Yes
Repair or replace wire L33B22 (1).
No
Repair or replace wire L32A22 (1).
Yes
Replace secondary instrument dimming resistor (Task 9-6-38).

157. INSTRUMENT LIGHTS DO NOT COME ON WHEN INST LT CONTROL IS TURNED CLOCKWISE FROM OFF TO BRT (CONT)

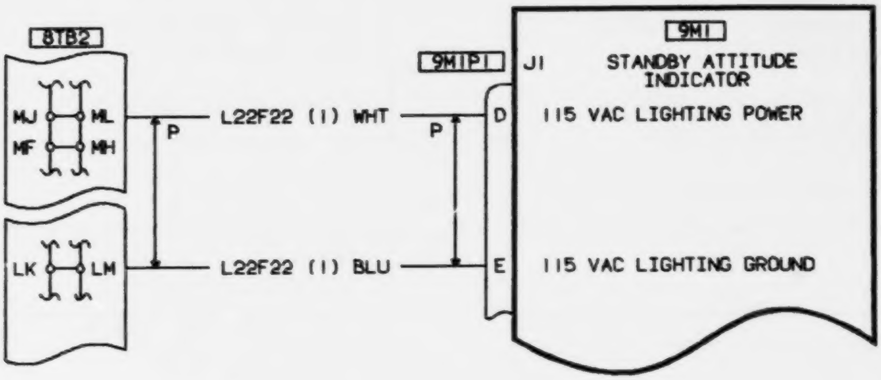

8R2
INSTRUMENT LIGHT CONTROL
GND
OFF
LV
HV
CW
BRT
8CB1
EL LT
L24A22N (1)
115 VAC ESSENTIAL BUS
2
L21A22 (1)
WSHLD POST DISC
22J3
22P3
8TB2
MA
L22B22 (1)
30
L22A22 (1)
KA
L33A22 (1)
L33A22 (1)
8R6
SECONDARY INSTRUMENT PANEL DIMMING RESISTOR
CW
WSHLD POST DISC
22J3
22P3
L32B22 (1)
29
L32A22 (1)

406475-125A

158. STANDBY ATTITUDE INDICATOR NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT

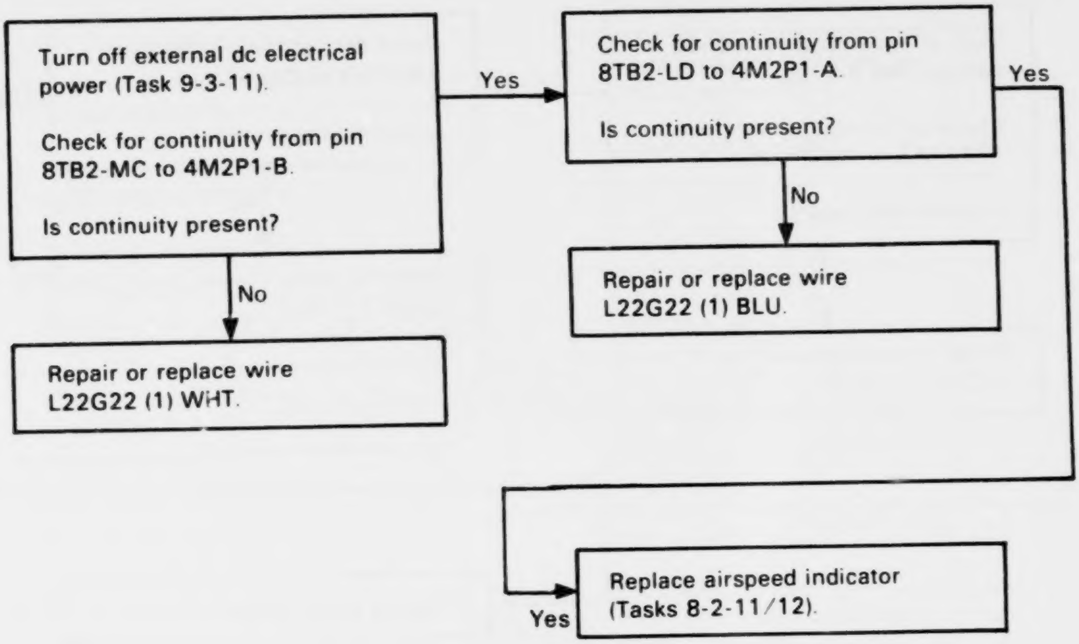

Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 8TB2-MH to 9M1P1-D.
Is continuity present?
Yes
Check for continuity from pin 8TB2-LM to 9M1P1-E.
Is continuity present?
Yes
No
Repair or replace wire L22F22 (1) BLU.
No
Repair or replace wire L22F22 (1) WHT.
Yes
Replace standby attitude indicator (Tasks 8-2-7/8).

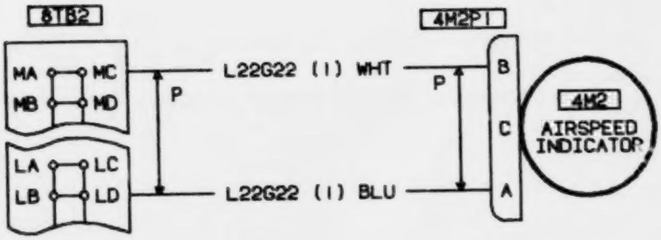
158. STANDBY ATTITUDE INDICATOR NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT (CONT)


8TB2
MJ
ML
MF
MH
LK
LM
P
L22F22 (1) WHT
P
L22F22 (1) BLU
9M1P1
J1
D
E
9M1
STANDBY ATTITUDE INDICATOR
115 VAC LIGHTING POWER
115 VAC LIGHTING GROUND

406475-126A

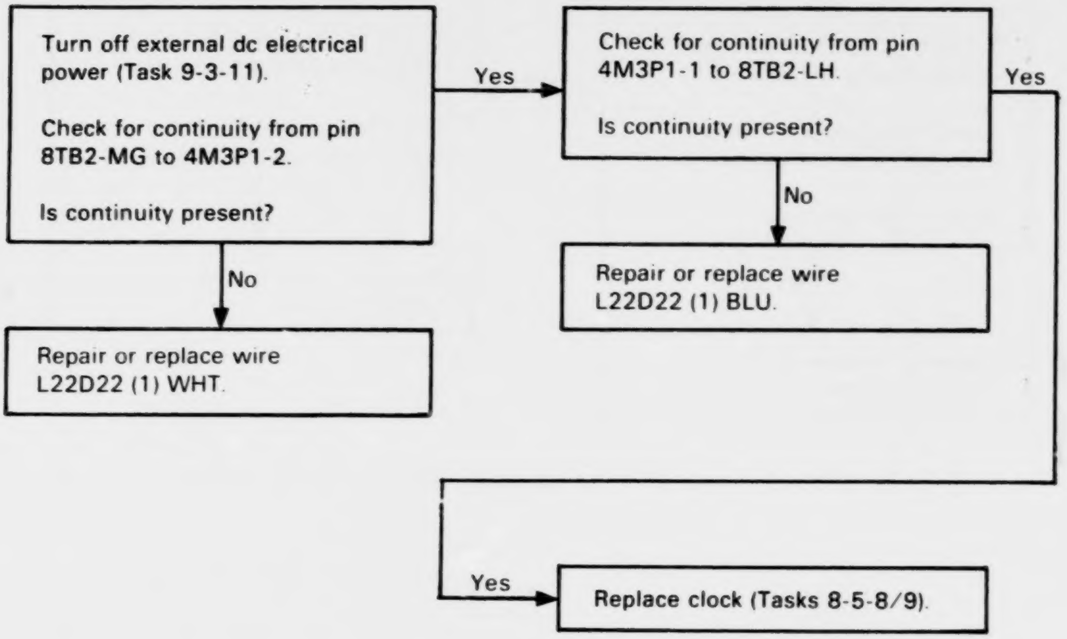
159. AIRSPEED INDICATOR NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 8TB2-MC to 4M2P1-B.
Is continuity present?
Yes
No
Repair or replace wire L22G22 (1) WHT.
Check for continuity from pin 8TB2-LD to 4M2P1-A.
Is continuity present?
Yes
No
Repair or replace wire L22G22 (1) BLU.
Yes
Replace airspeed indicator (Tasks 8-2-11/12).


8TB2
MA
MC
MB
MD
LA
LC
LB
LD
P
L22G22 (1) WHT
L22G22 (1) BLU
P
4M2P1
B
C
A
4M2
AIRSPEED INDICATOR

406475-127

160. CLOCK IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-MG to 4M3P1-2.

Is continuity present?

No: Repair or replace wire L22D22 (1) WHT.

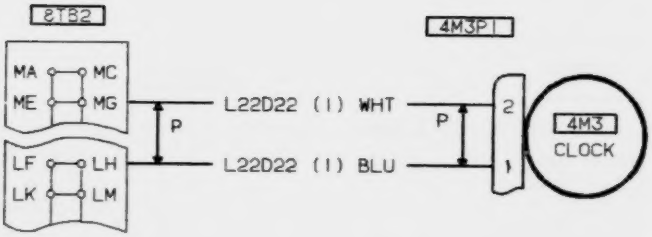
Yes: Check for continuity from pin 4M3P1-1 to 8TB2-LH.

Is continuity present?

No: Repair or replace wire L22D22 (1) BLU.

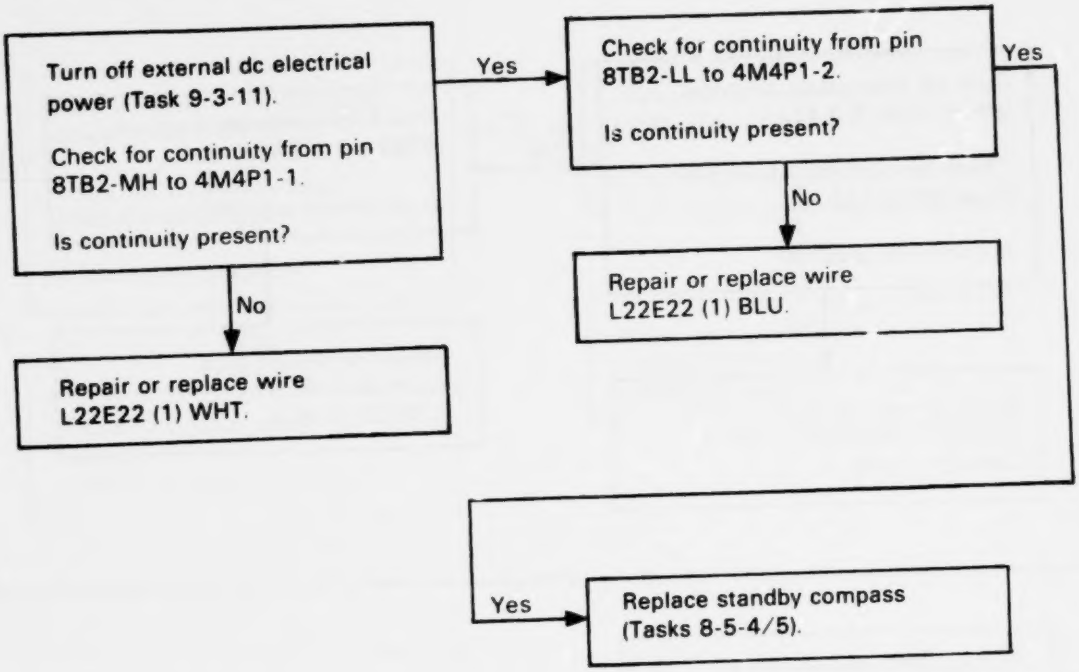
Yes: Replace clock (Tasks 8-5-8/9).

Yes
No
Yes
No
Yes



8TB2
MA
MC
ME
MG
LF
LH
LK
LM
P
L22D22 (1) WHT
L22D22 (1) BLU
P
4M3P1
2
1
4M3
CLOCK
406475-128

161. STANDBY COMPASS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-MH to 4M4P1-1.

Is continuity present?

Repair or replace wire L22E22 (1) WHT.

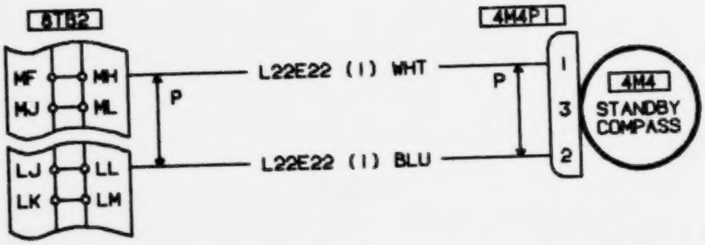
Check for continuity from pin 8TB2-LL to 4M4P1-2.

Is continuity present?

Repair or replace wire L22E22 (1) BLU.

Replace standby compass (Tasks 8-5-4/5).

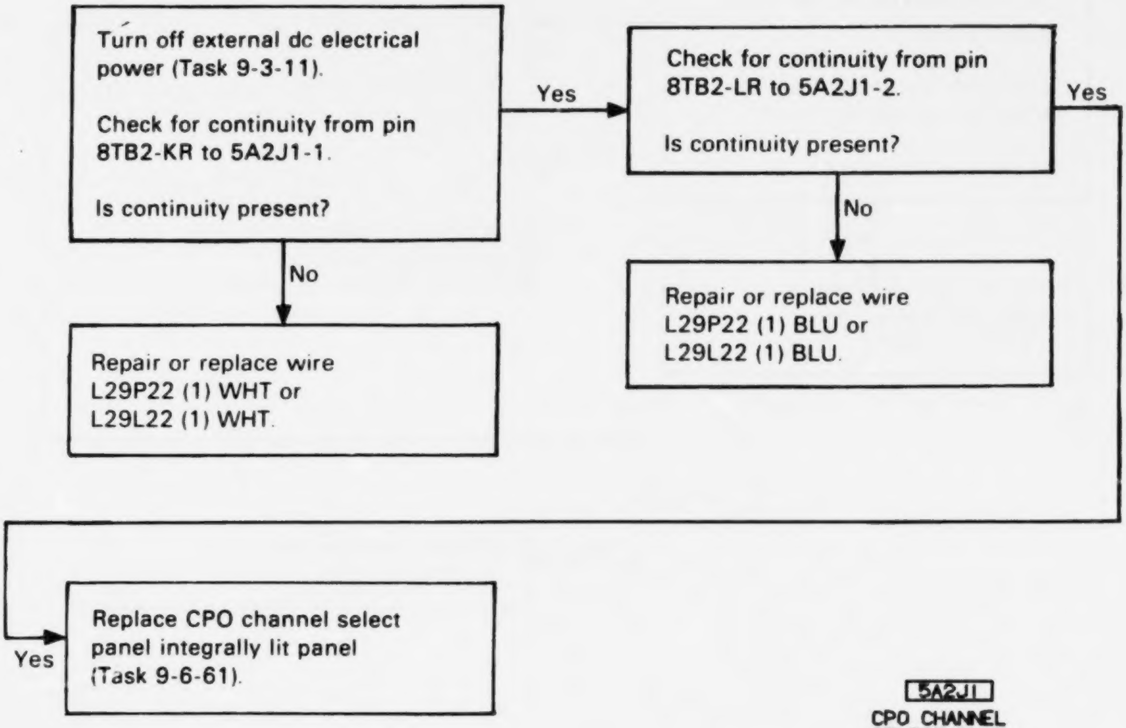
Yes
No
Yes
No
Yes



8TB2
MF
MH
MJ
ML
LJ
LL
LK
LM
P
L22E22 (1) WHT
L22E22 (1) BLU
P
4M4P1
1
3
2
4M4
STANDBY COMPASS

406475-129A

162. CPO CHANNEL SELECT PANEL IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT


Yes
No
Yes
No
Yes

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KR to 5A2J1-1.

Is continuity present?

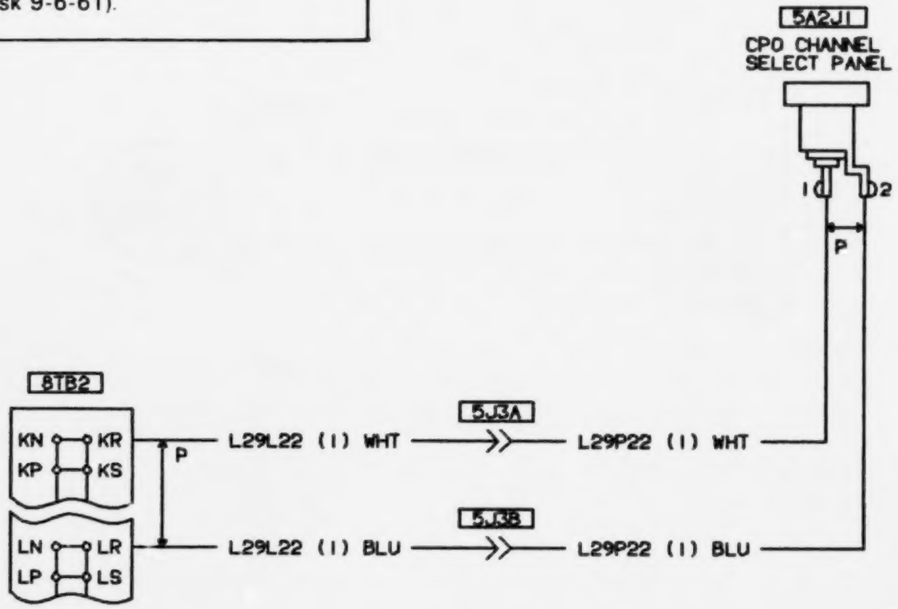
Check for continuity from pin 8TB2-LR to 5A2J1-2.

Is continuity present?

Repair or replace wire L29P22 (1) WHT or L29L22 (1) WHT.

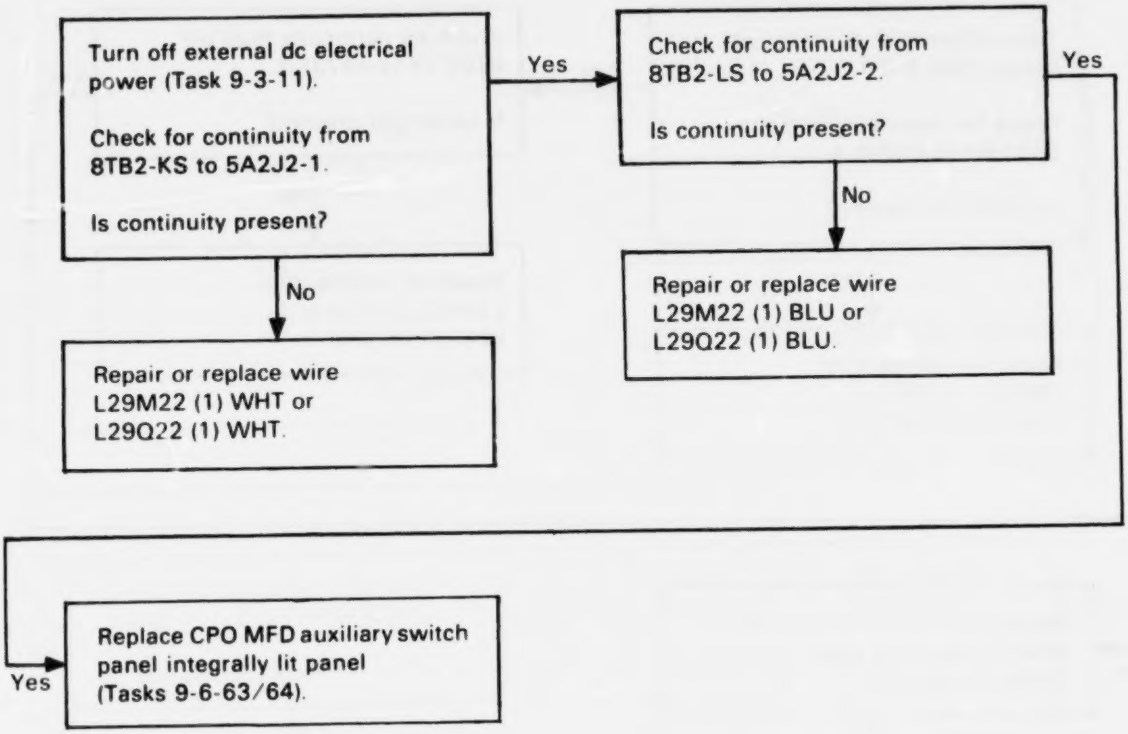
Repair or replace wire L29P22 (1) BLU or L29L22 (1) BLU.

Replace CPO channel select panel integrally lit panel (Task 9-6-61).


5A2J1
CPO CHANNEL SELECT PANEL
1
2
P
8TB2
KN
KR
KP
KS
LN
LR
LP
LS
P
L29L22 (1) WHT
5J3A
L29P22 (1) WHT
L29L22 (1) BLU
5J3B
L29P22 (1) BLU

406475-130A

163. CPO MULTIFUNCTION DISPLAY (MFD) AUXILIARY SWITCH PANEL IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 8TB2-KS to 5A2J2-1.

Is continuity present?

Check for continuity from 8TB2-LS to 5A2J2-2.

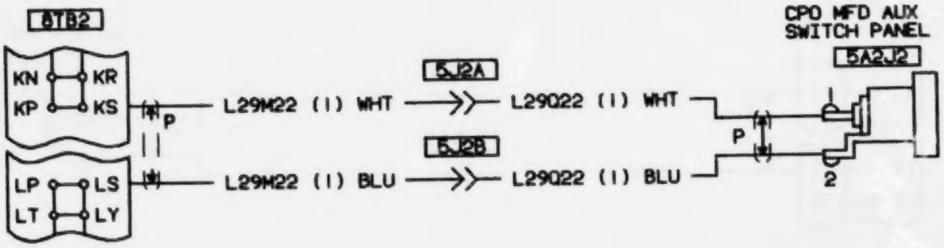
Is continuity present?

Repair or replace wire L29M22 (1) WHT or L29Q22 (1) WHT.

Repair or replace wire L29M22 (1) BLU or L29Q22 (1) BLU.

Replace CPO MFD auxiliary switch panel integrally lit panel (Tasks 9-6-63/64).

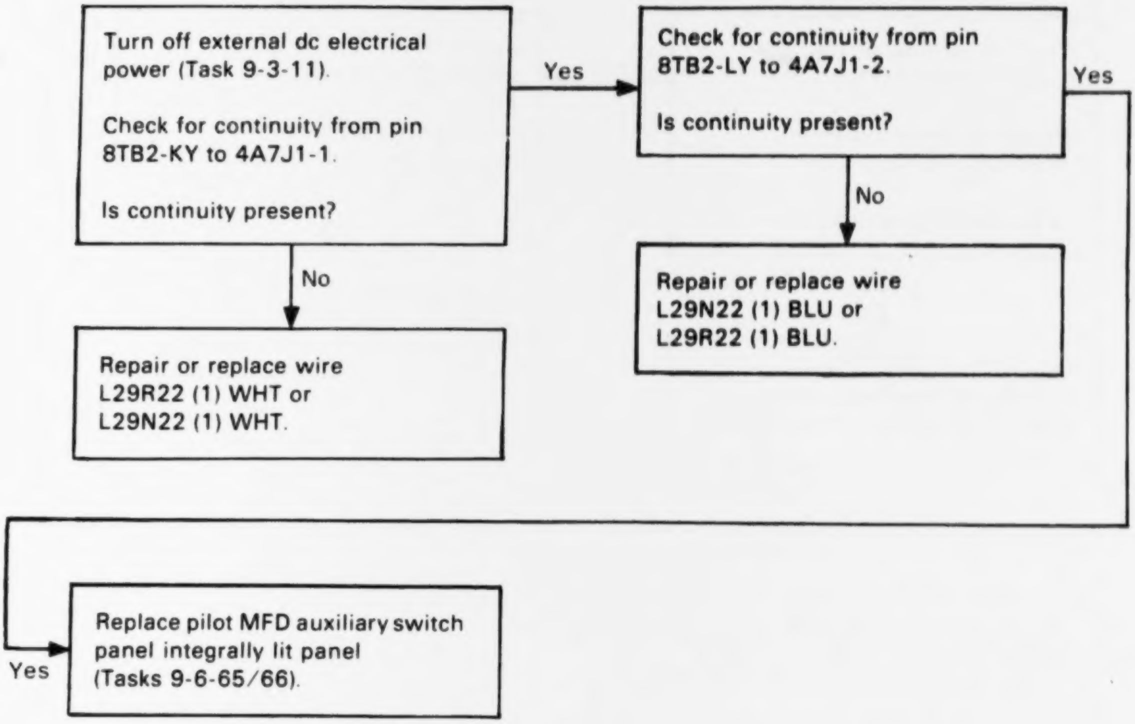
Yes
No
Yes
No
Yes



8TB2
KN
KR
KP
KS
LP
LS
LT
LY
P
L29M22 (1) WHT
5J2A
L29Q22 (1) WHT
L29M22 (1) BLU
5J2B
L29Q22 (1) BLU
P
CPO MFD AUX SWITCH PANEL
5A2J2
2

406475-150A

164. PILOT MULTIFUNCTION DISPLAY (MFD) AUXILIARY SWITCH PANEL NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KY to 4A7J1-1.

Is continuity present?

Yes
No

Repair or replace wire L29R22 (1) WHT or L29N22 (1) WHT.

Check for continuity from pin 8TB2-LY to 4A7J1-2.

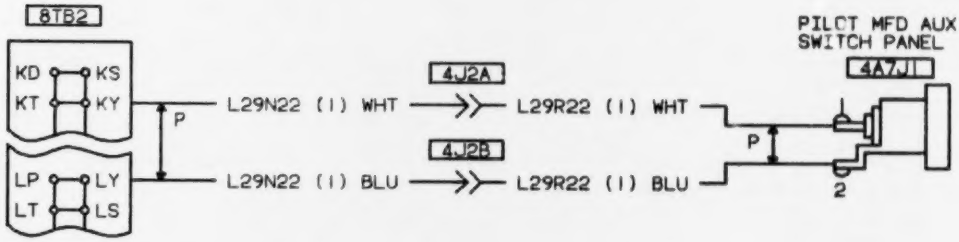
Is continuity present?

Yes
No

Repair or replace wire L29N22 (1) BLU or L29R22 (1) BLU.

Yes

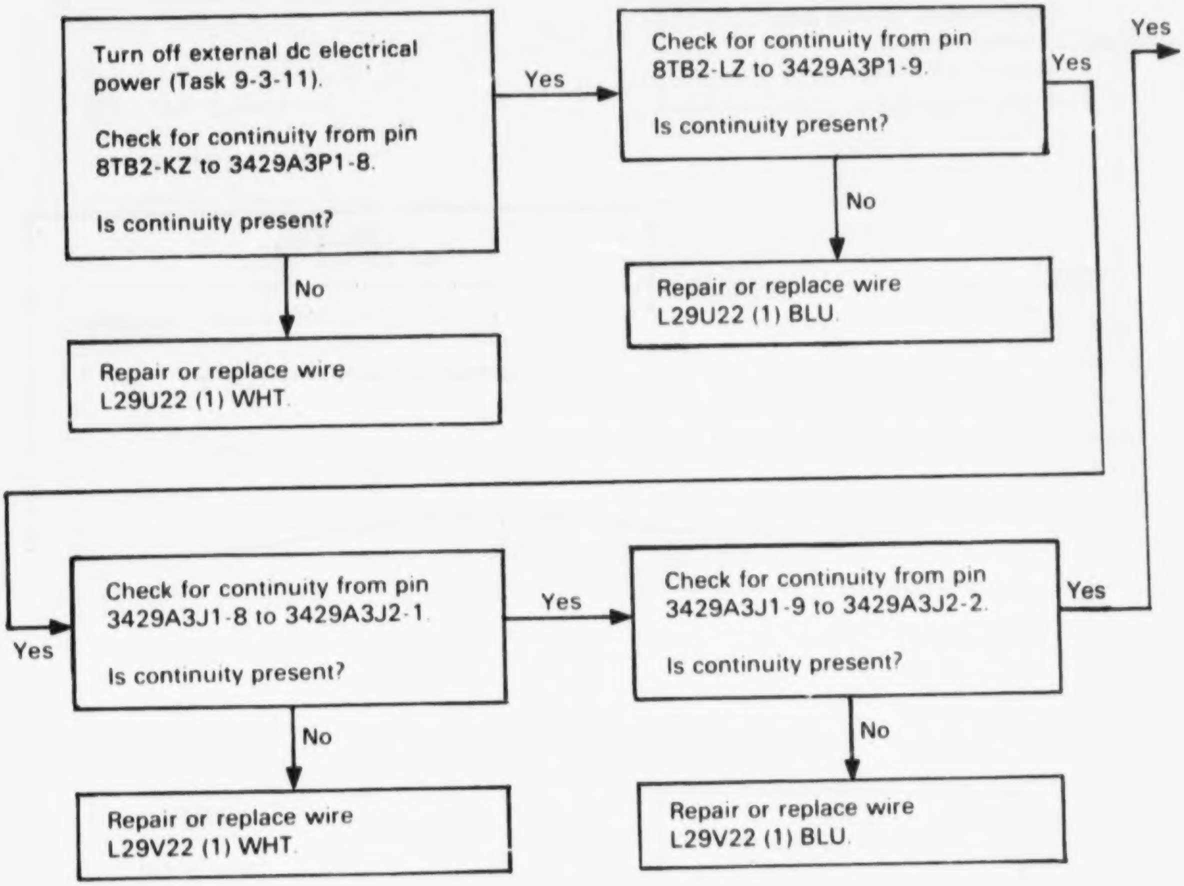
Replace pilot MFD auxiliary switch panel integrally lit panel (Tasks 9-6-65/66).



8TB2
KD
KS
KT
KY
LP
LY
LT
LS
P
L29N22 (1) WHT
4J2A
L29R22 (1) WHT
L29N22 (1) BLU
4J2B
L29R22 (1) BLU
PILOT MFD AUX SWITCH PANEL
4A7J1
P
1
2

406475-148

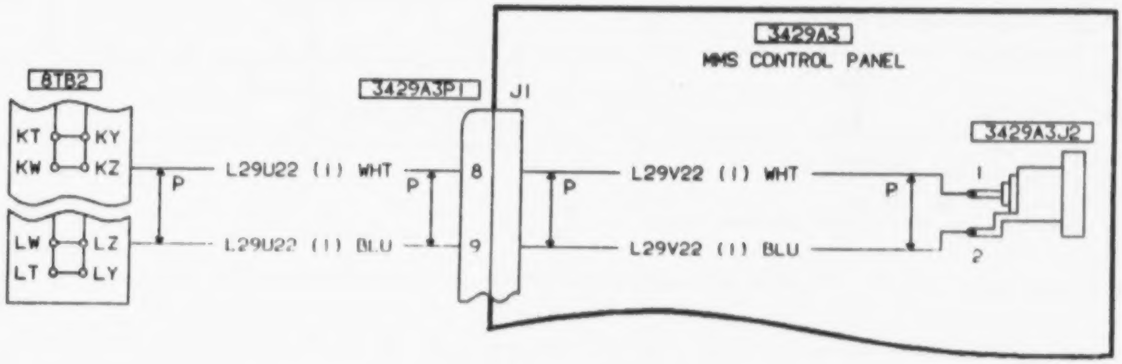
165. MAST MOUNTED SIGHT (MMS) CONTROL PANEL NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 8TB2-KZ to 3429A3P1-8.
Is continuity present?
Yes
No
Repair or replace wire L29U22 (1) WHT.
Check for continuity from pin 8TB2-LZ to 3429A3P1-9.
Is continuity present?
Yes
No
Repair or replace wire L29U22 (1) BLU.
Yes
Check for continuity from pin 3429A3J1-8 to 3429A3J2-1.
Is continuity present?
Yes
No
Repair or replace wire L29V22 (1) WHT.
Check for continuity from pin 3429A3J1-9 to 3429A3J2-2.
Is continuity present?
Yes
No
Repair or replace wire L29V22 (1) BLU.
Yes

165. MAST MOUNTED SIGHT (MMS) CONTROL PANEL NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT (CONT)

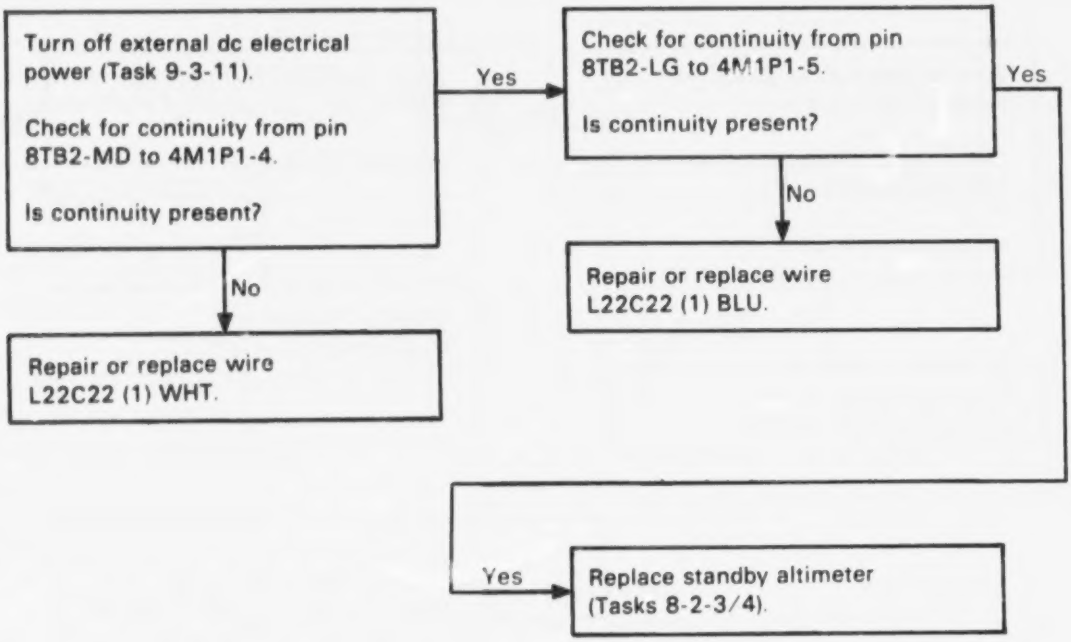
Yes →

Replace MMS control panel integrally lit panel (Tasks 9-6-67/68).


8TB2
KT
KY
KW
KZ
LW
LZ
LT
LY
P
L29U22 (1) WHT
L29U22 (1) BLU
P
3429A3P1
J1
8
9
3429A3
MMS CONTROL PANEL
P
L29V22 (1) WHT
L29V22 (1) BLU
P
3429A3J2
1
2

406475-149A

166. STANDBY ALTIMETER NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-MD to 4M1P1-4.

Is continuity present?

Repair or replace wire L22C22 (1) WHT.

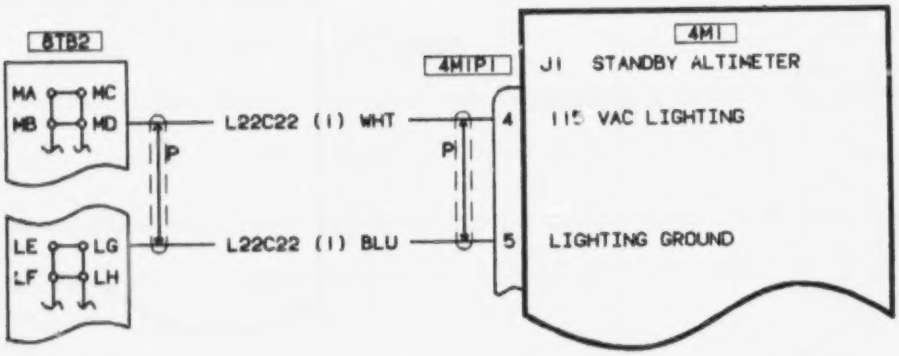
Check for continuity from pin 8TB2-LG to 4M1P1-5.

Is continuity present?

Repair or replace wire L22C22 (1) BLU.

Replace standby altimeter (Tasks 8-2-3/4).

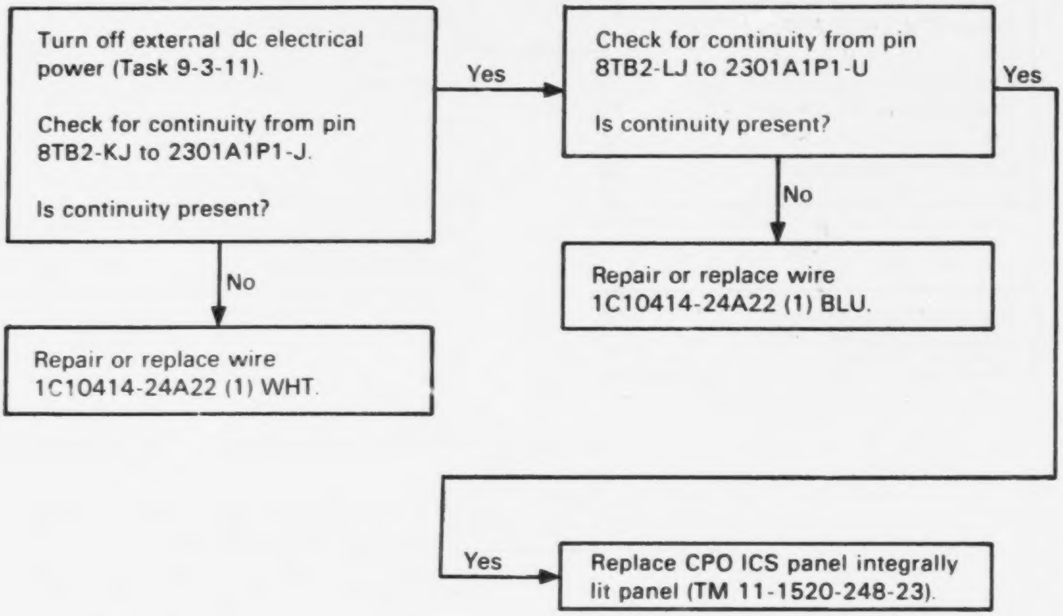
Yes
No
Yes
No
Yes



8TB2
MA
MC
MB
MD
LE
LG
LF
LH
P
L22C22 (1) WHT
L22C22 (1) BLU
P
4M1P1
4
5
4M1
J1 STANDBY ALTIMETER
115 VAC LIGHTING
LIGHTING GROUND

406475-145B

167. CPO INTERCOMMUNICATION SYSTEM (ICS) PANEL IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KJ to 2301A1P1-J.

Is continuity present?

Repair or replace wire 1C10414-24A22 (1) WHT.

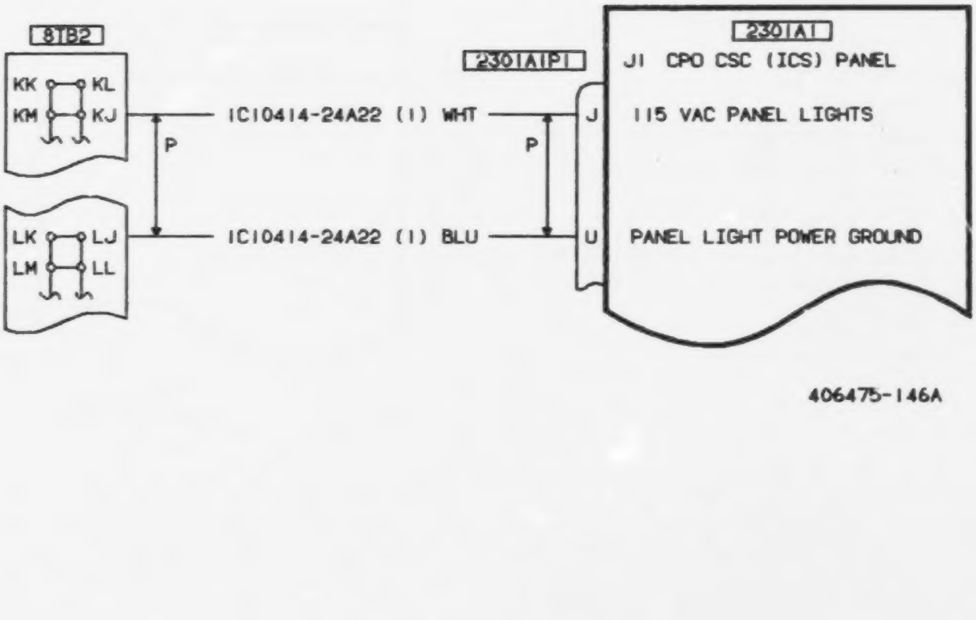
Check for continuity from pin 8TB2-LJ to 2301A1P1-U

Is continuity present?

Repair or replace wire 1C10414-24A22 (1) BLU.

Replace CPO ICS panel integrally lit panel (TM 11-1520-248-23).

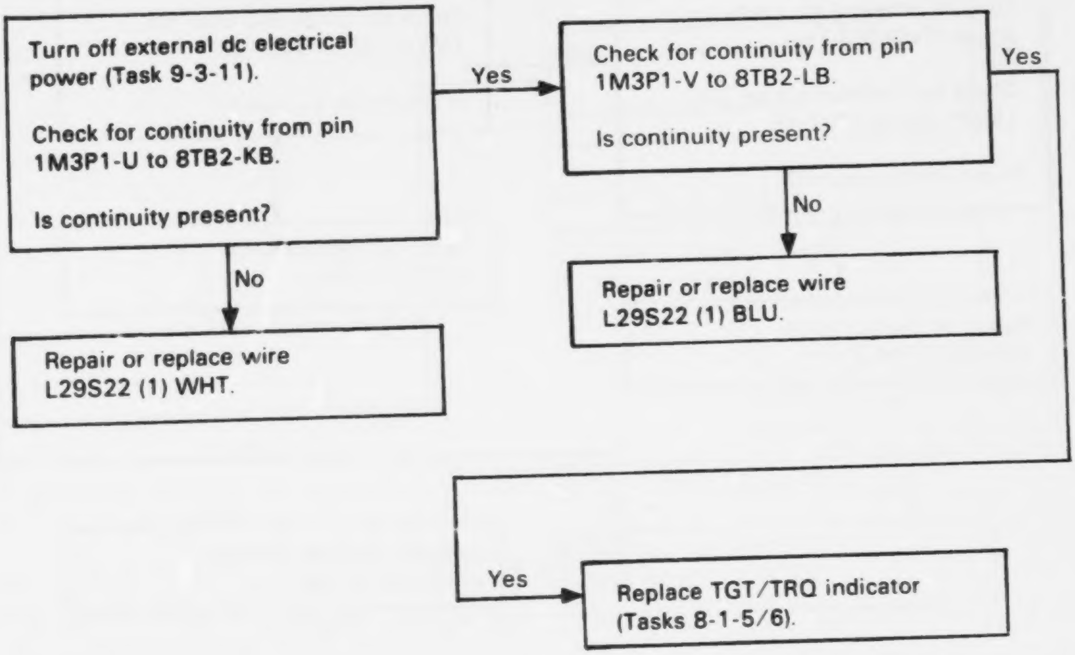
Yes
No
Yes
No
Yes



8TB2
KK
KL
KM
KJ
LK
LJ
LM
LL
P
1C10414-24A22 (1) WHT
1C10414-24A22 (1) BLU
P
2301A1P1
J
U
2301A1
J1 CPO CSC (ICS) PANEL
115 VAC PANEL LIGHTS
PANEL LIGHT POWER GROUND

406475-146A

168. TGT/TRQ INDICATOR NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1M3P1-U to 8TB2-KB.

Is continuity present?

Repair or replace wire L29S22 (1) WHT.

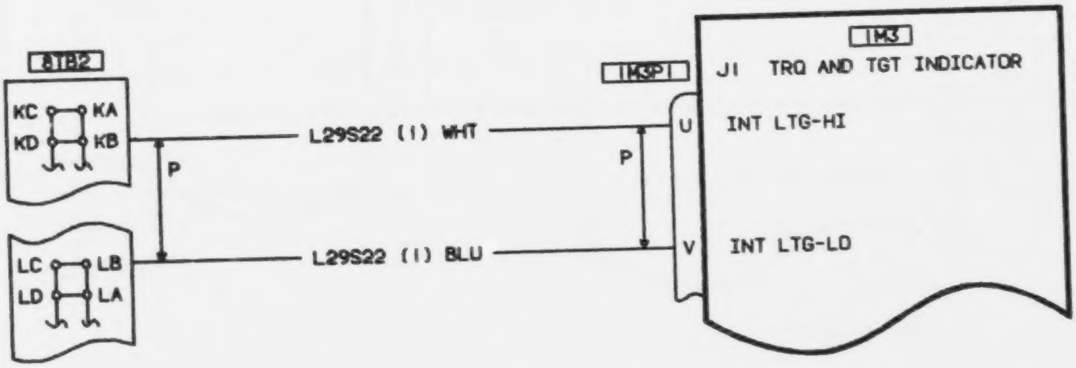
Check for continuity from pin 1M3P1-V to 8TB2-LB.

Is continuity present?

Repair or replace wire L29S22 (1) BLU.

Replace TGT/TRQ indicator (Tasks 8-1-5/6).

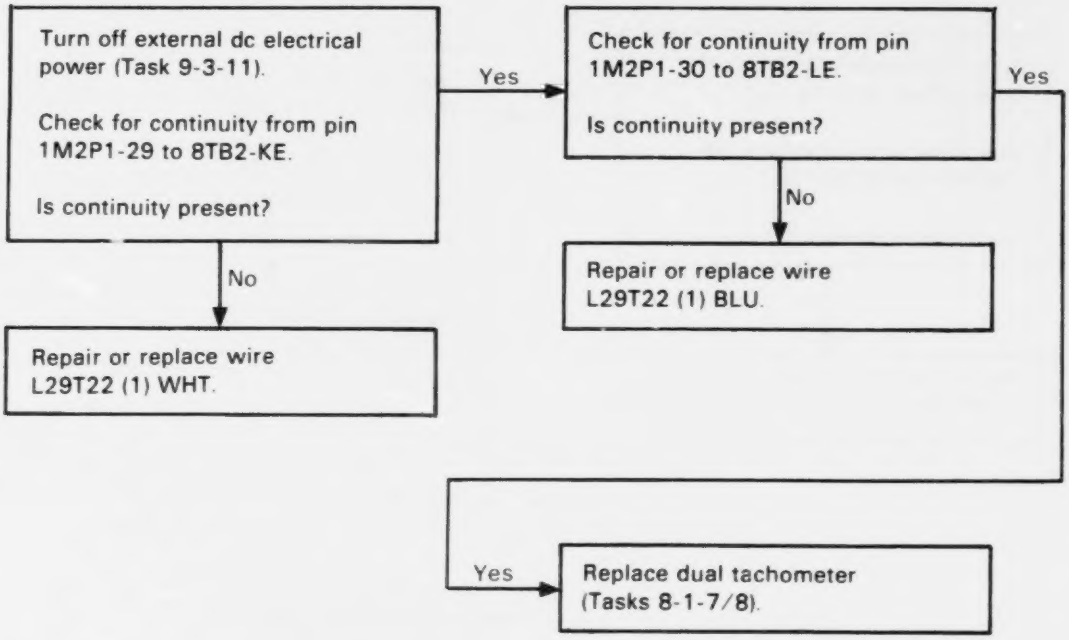
Yes
No
Yes
No
Yes



8TB2
KC
KA
KD
KB
LC
LB
LD
LA
P
L29S22 (1) WHT
L29S22 (1) BLU
P
1M3P1
U
V
1M3
J1 TRQ AND TGT INDICATOR
INT LTG-HI
INT LTG-LO

406475-138A

169. DUAL TACHOMETER IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1M2P1-29 to 8TB2-KE.

Is continuity present?

Repair or replace wire L29T22 (1) WHT.

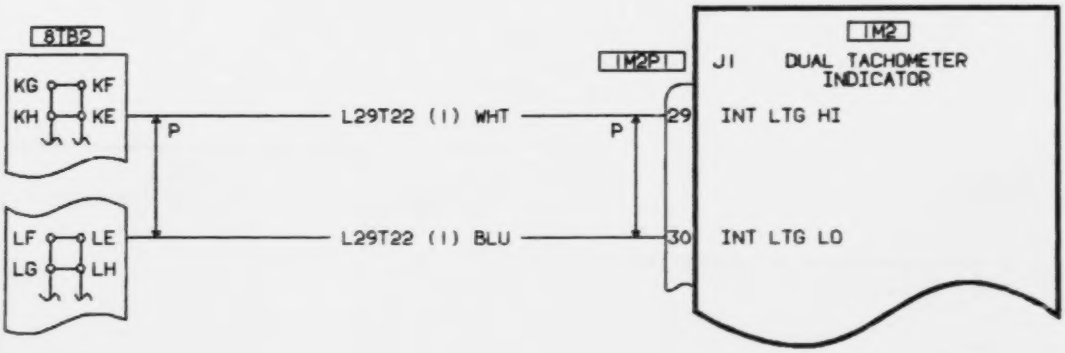
Check for continuity from pin 1M2P1-30 to 8TB2-LE.

Is continuity present?

Repair or replace wire L29T22 (1) BLU.

Replace dual tachometer (Tasks 8-1-7/8).

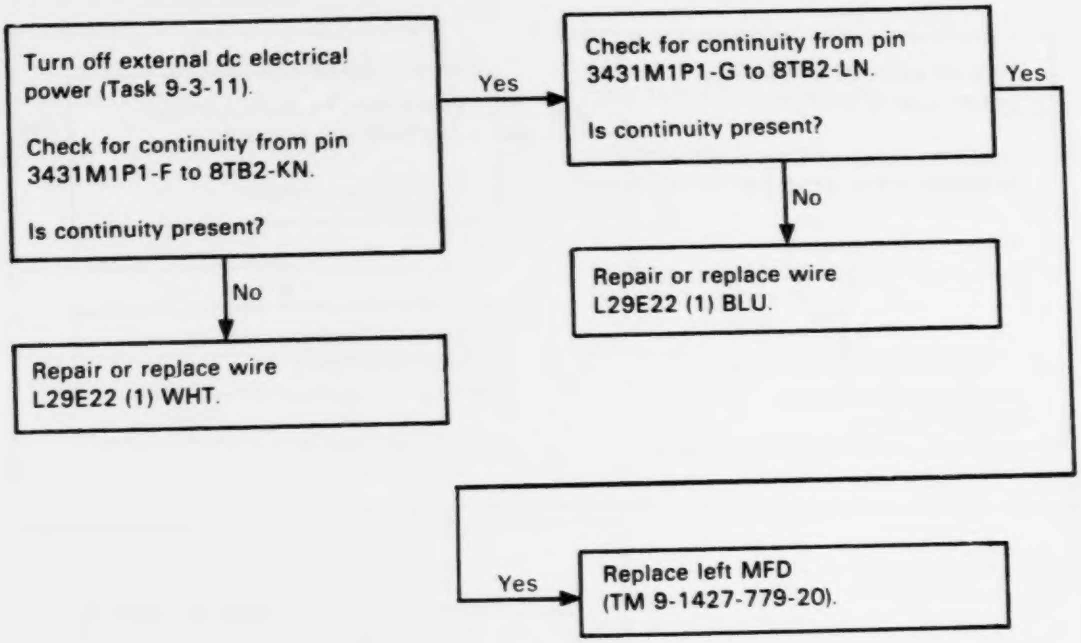
Yes
No
Yes
No
Yes



8TB2
KG
KF
KH
KE
LF
LE
LG
LH
P
L29T22 (1) WHT
L29T22 (1) BLU
P
1M2P1
29
30
1M2
J1
DUAL TACHOMETER INDICATOR
INT LTG HI
INT LTG LO

406475-137A

170. LEFT MULTIFUNCTION DISPLAY (MFD) NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3431M1P1-F to 8TB2-KN.

Is continuity present?

Check for continuity from pin 3431M1P1-G to 8TB2-LN.

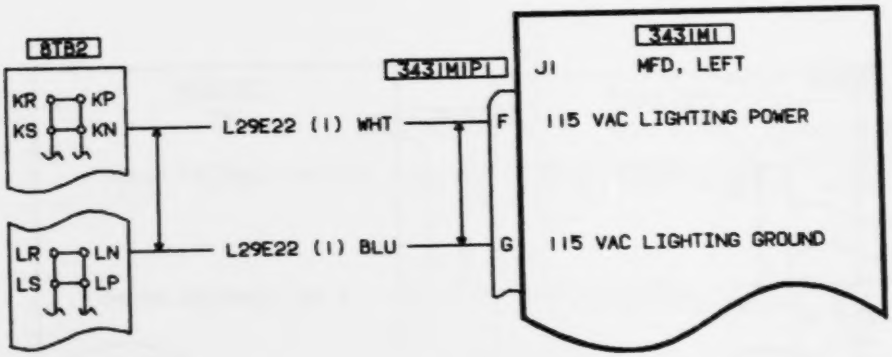
Is continuity present?

Repair or replace wire L29E22 (1) WHT.

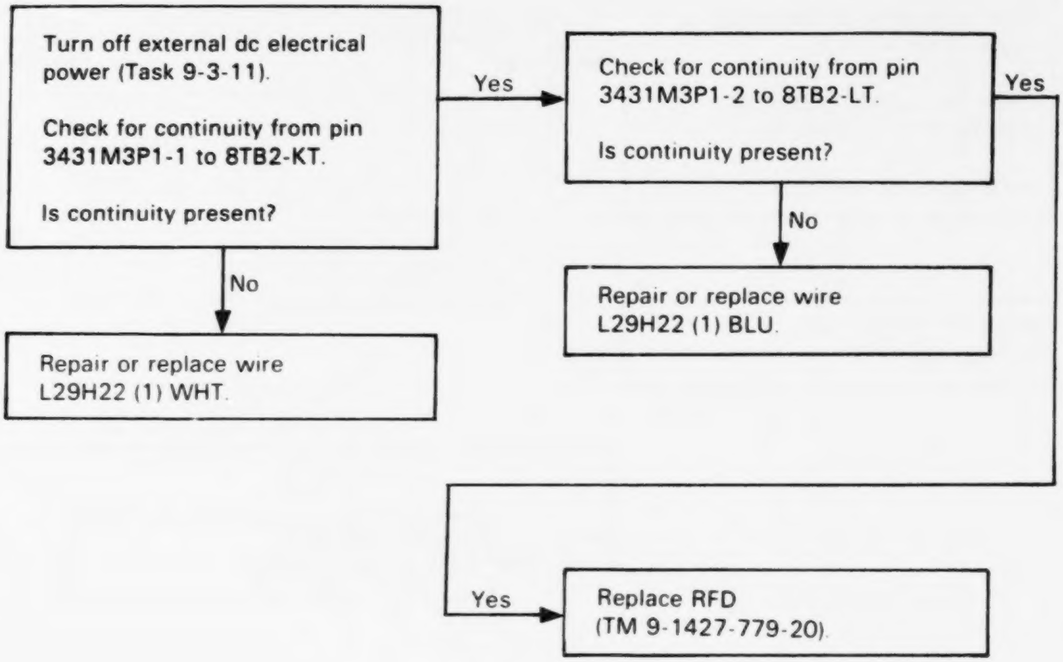
Repair or replace wire L29E22 (1) BLU.

Replace left MFD (TM 9-1427-779-20).

Yes
No
Yes
No
Yes


8TB2
KR
KP
KS
KN
LR
LN
LS
LP
L29E22 (1) WHT
L29E22 (1) BLU
3431M1P1
J1
F
G
3431M1
MFD, LEFT
115 VAC LIGHTING POWER
115 VAC LIGHTING GROUND
406475-135A

171. REMOTE FREQUENCY DISPLAY (RFD) IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3431M3P1-1 to 8TB2-KT.

Is continuity present?

Repair or replace wire L29H22 (1) WHT.

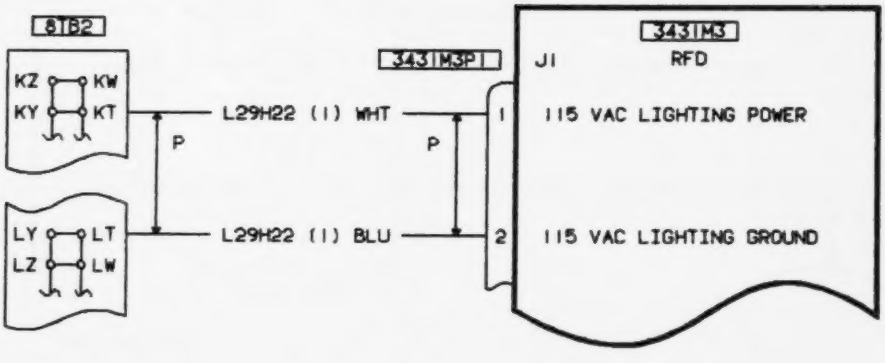
Check for continuity from pin 3431M3P1-2 to 8TB2-LT.

Is continuity present?

Repair or replace wire L29H22 (1) BLU.

Replace RFD (TM 9-1427-779-20).

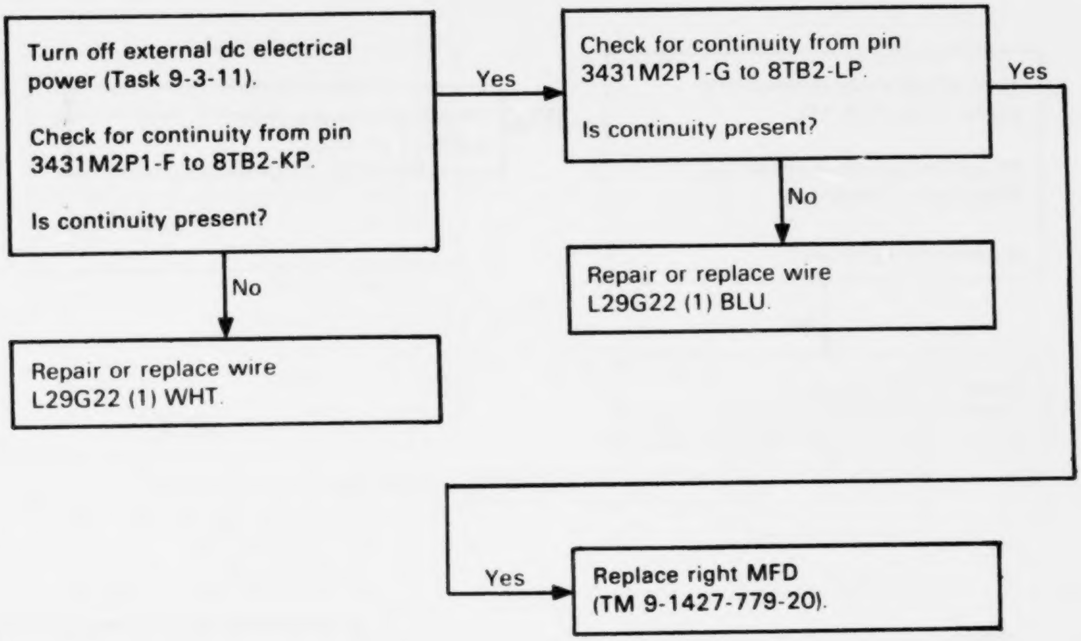
Yes
No
Yes
No
Yes



8TB2
KZ
KW
KY
KT
LY
LT
LZ
LW
P
L29H22 (1) WHT
L29H22 (1) BLU
P
3431M3P1
J1
3431M3
RFD
1
115 VAC LIGHTING POWER
2
115 VAC LIGHTING GROUND

406475-136A

172. RIGHT MULTIFUNCTION DISPLAY (MFD) IS NOT LIT AFTER INST LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3431M2P1-F to 8TB2-KP.

Is continuity present?

Repair or replace wire L29G22 (1) WHT.

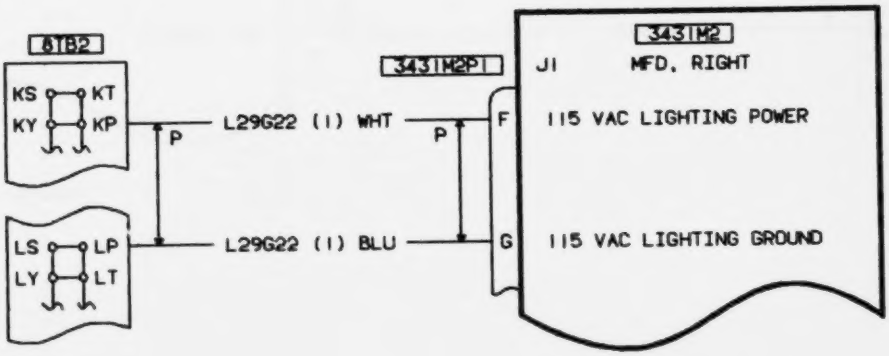
Check for continuity from pin 3431M2P1-G to 8TB2-LP.

Is continuity present?

Repair or replace wire L29G22 (1) BLU.

Replace right MFD (TM 9-1427-779-20).

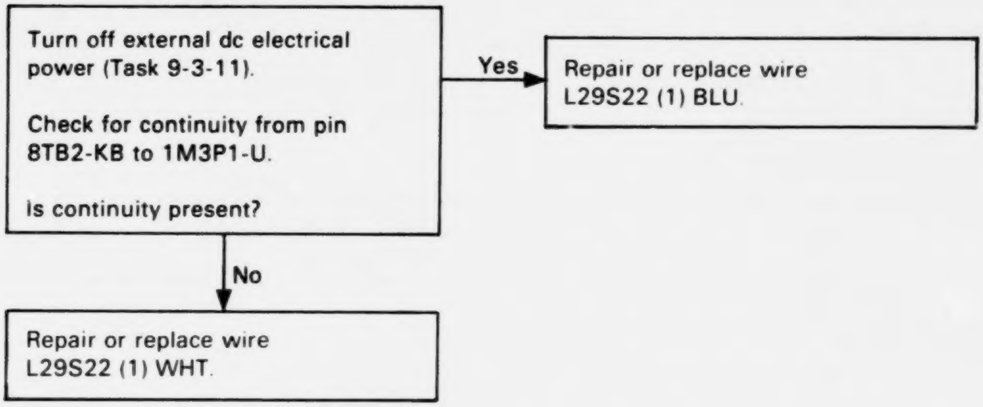
Yes
No
Yes
No
Yes
Yes



8TB2
KS
KT
KY
KP
LS
LP
LY
LT
P
L29G22 (1) WHT
L29G22 (1) BLU
3431M2P1
P
F
G
3431M2
J1
MFD, RIGHT
115 VAC LIGHTING POWER
115 VAC LIGHTING GROUND

406475-134A

173. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL TGT/TRQ INDICATOR

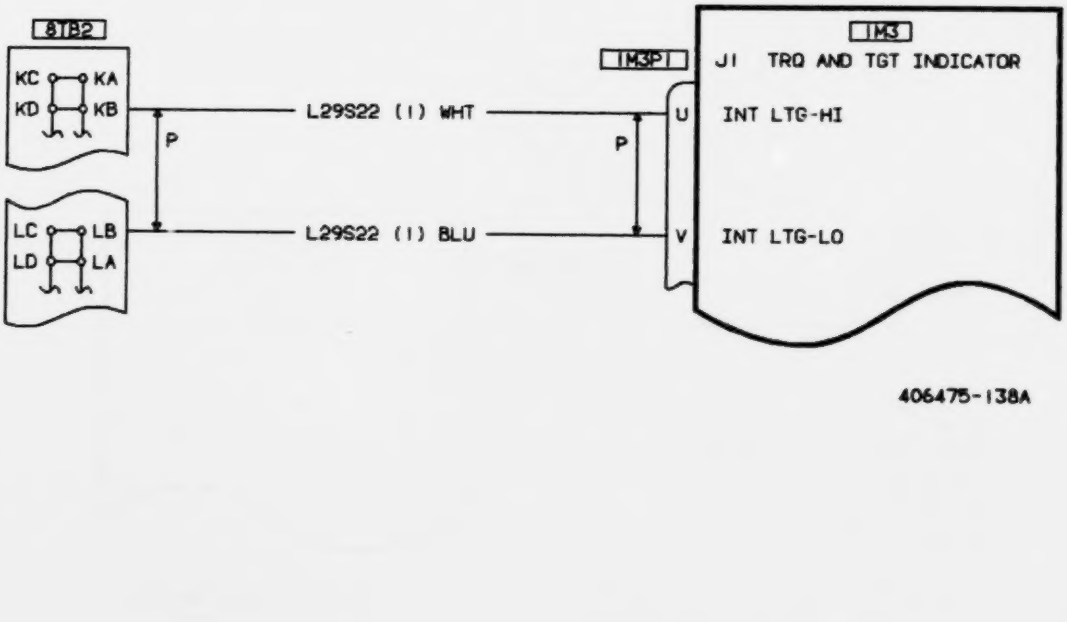

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KB to 1M3P1-U.

Is continuity present?

Repair or replace wire L29S22 (1) BLU.

Repair or replace wire L29S22 (1) WHT.

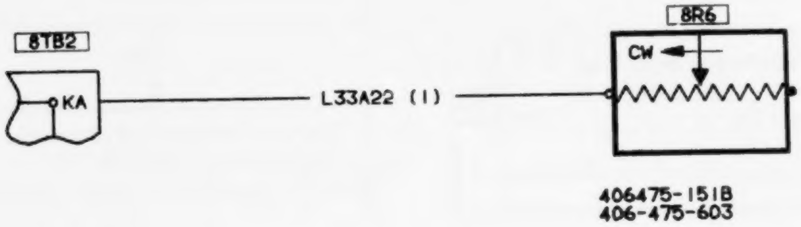

8TB2
KC
KA
KD
KB
LC
LB
LD
LA
P
L29S22 (1) WHT
L29S22 (1) BLU
P
1M3P1
1M3
J1 TRQ AND TGT INDICATOR
U
V
INT LTG-HI
INT LTG-LO

406475-138A

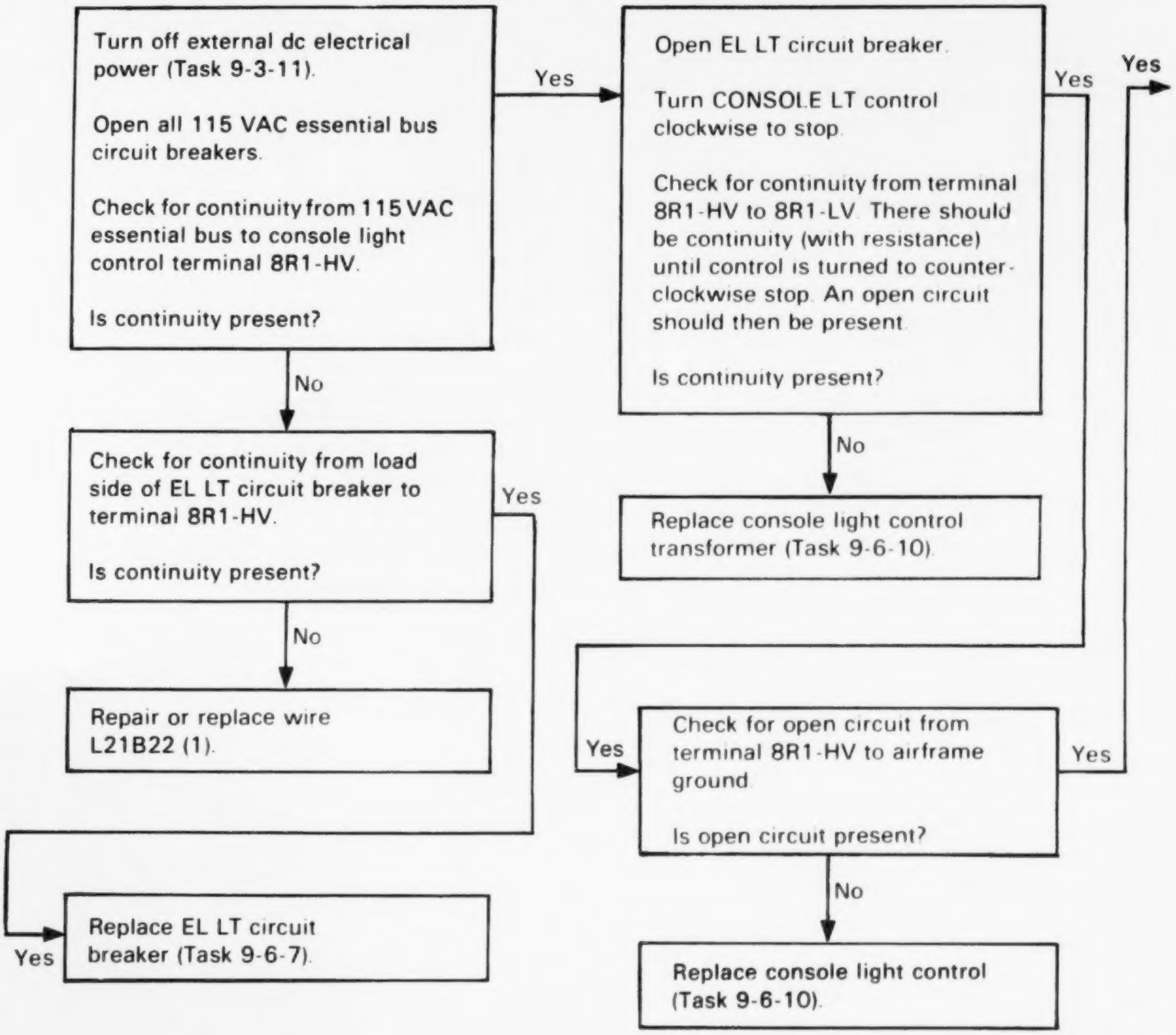
174. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMENTER CAUSES DIMMING FOR CW ROTATION

Turn off external dc electrical power (Task 9-3-11).

Remove wire L33A22 (1) from end of 8R6 and connect wire to other end of 8R6.


8TB2
KA
L33A22 (1)
8R6
CW
406475-151B
406-475-603

175. PANEL LIGHTS DO NOT COME ON WHEN CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Open all 115 VAC essential bus circuit breakers.

Check for continuity from 115 VAC essential bus to console light control terminal 8R1-HV.

Is continuity present?

Check for continuity from load side of EL LT circuit breaker to terminal 8R1-HV.

Is continuity present?

Repair or replace wire L21B22 (1).

Replace EL LT circuit breaker (Task 9-6-7).

Open EL LT circuit breaker.

Turn CONSOLE LT control clockwise to stop.

Check for continuity from terminal 8R1-HV to 8R1-LV. There should be continuity (with resistance) until control is turned to counter-clockwise stop. An open circuit should then be present.

Is continuity present?

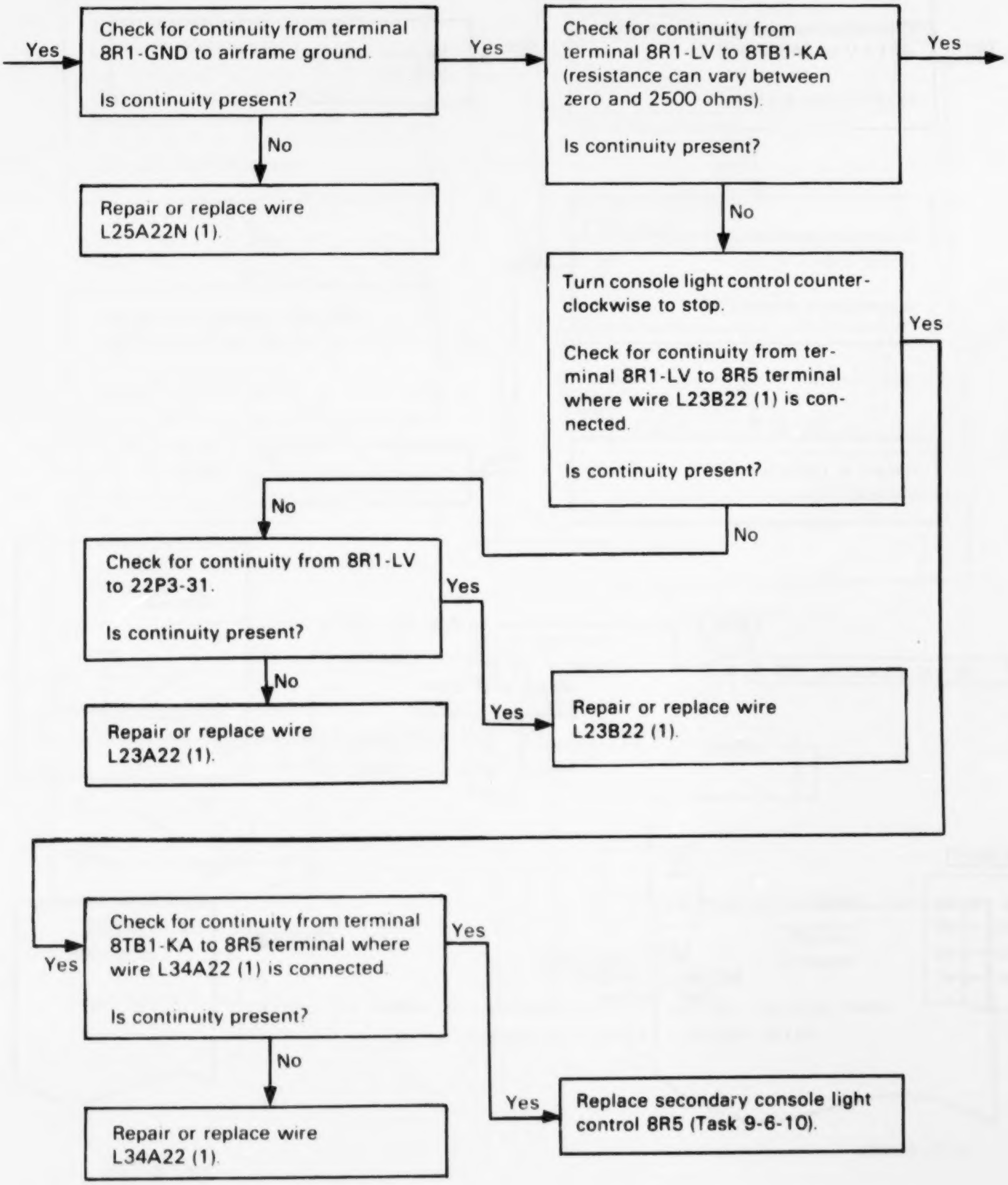
Replace console light control transformer (Task 9-6-10).

Check for open circuit from terminal 8R1-HV to airframe ground.

Is open circuit present?

Replace console light control (Task 9-6-10).

175. PANEL LIGHTS DO NOT COME ON WHEN CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT (CONT)



Check for continuity from terminal 8R1-GND to airframe ground.

Is continuity present?

Repair or replace wire L25A22N (1).

Check for continuity from terminal 8R1-LV to 8TB1-KA (resistance can vary between zero and 2500 ohms).

Is continuity present?

Turn console light control counterclockwise to stop.

Check for continuity from terminal 8R1-LV to 8R5 terminal where wire L23B22 (1) is connected.

Is continuity present?

Check for continuity from 8R1-LV to 22P3-31.

Is continuity present?

Repair or replace wire L23A22 (1).

Repair or replace wire L23B22 (1).

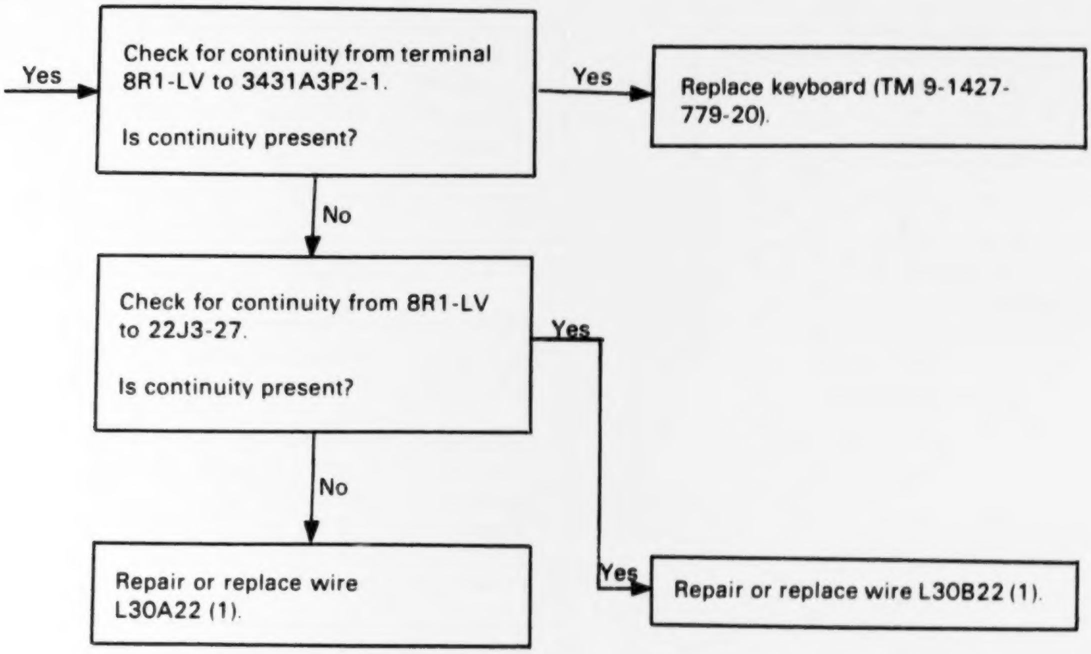
Check for continuity from terminal 8TB1-KA to 8R5 terminal where wire L34A22 (1) is connected.

Is continuity present?

Repair or replace wire L34A22 (1).

Replace secondary console light control 8R5 (Task 9-6-10).

175. PANEL LIGHTS DO NOT COME ON WHEN CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT (CONT)



Check for continuity from terminal 8R1-LV to 3431A3P2-1.

Is continuity present?

Replace keyboard (TM 9-1427-779-20).

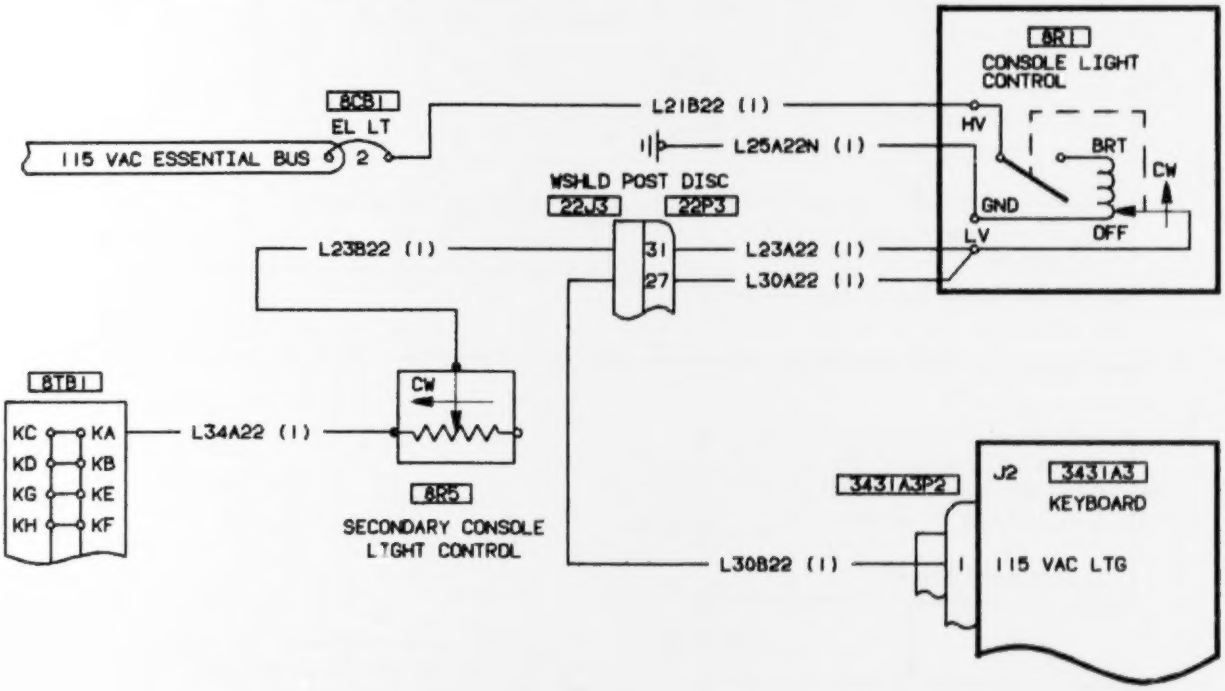
Check for continuity from 8R1-LV to 22J3-27.

Is continuity present?

Repair or replace wire L30A22 (1).

Repair or replace wire L30B22 (1).

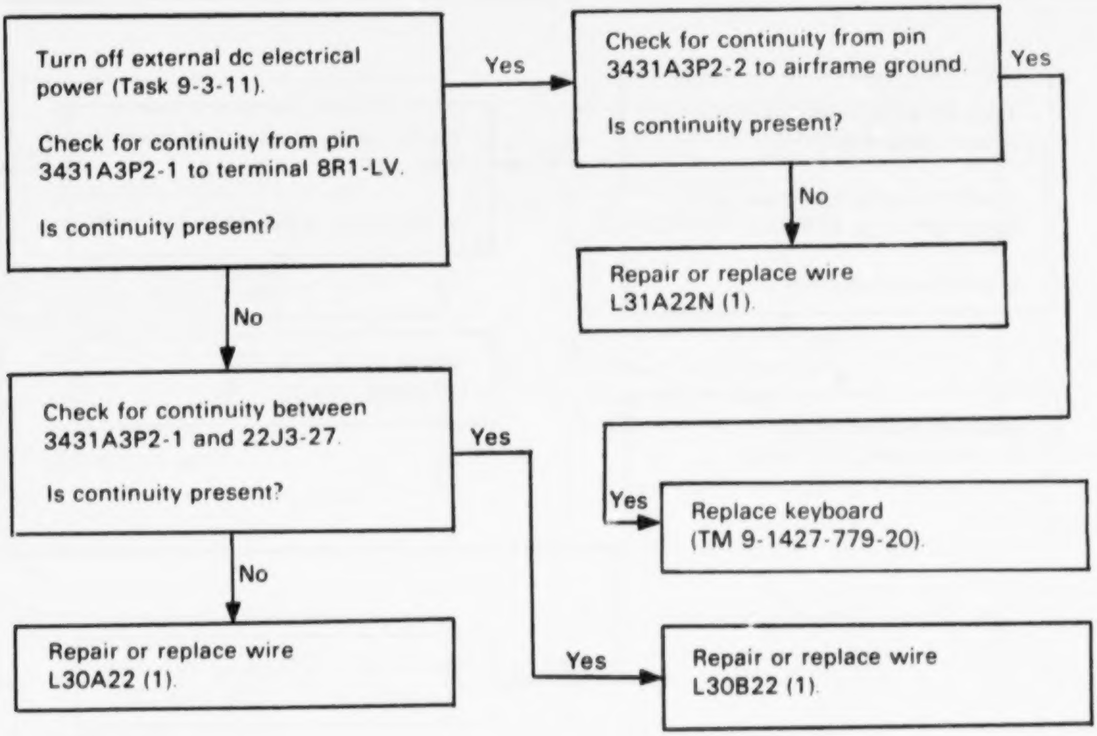
Yes
Yes
No
Yes
No
Yes



8R1
CONSOLE LIGHT CONTROL
8CB1
EL LT
115 VAC ESSENTIAL BUS
2
L21B22 (1)
L25A22N (1)
HV
BRT
CW
GND
OFF
LV
WSHLD POST DISC
22J3
22P3
L23B22 (1)
31
27
L23A22 (1)
L30A22 (1)
8TB1
KC
KD
KG
KH
KA
KB
KE
KF
L34A22 (1)
CW
8R5
SECONDARY CONSOLE LIGHT CONTROL
3431A3P2
J2
3431A3
KEYBOARD
L30B22 (1)
1
115 VAC LTG

406475-147A

176. KEYBOARD NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3431A3P2-1 to terminal 8R1-LV.

Is continuity present?

Check for continuity from pin 3431A3P2-2 to airframe ground.

Is continuity present?

Repair or replace wire L31A22N (1).

Check for continuity between 3431A3P2-1 and 22J3-27.

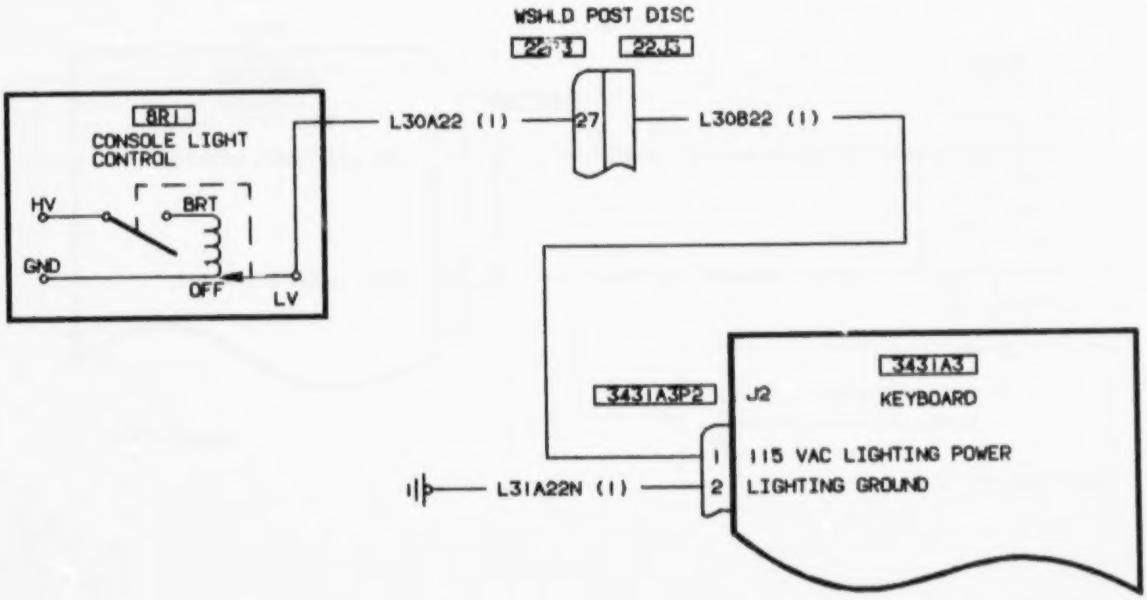
Is continuity present?

Replace keyboard (TM 9-1427-779-20).

Repair or replace wire L30A22 (1).

Repair or replace wire L30B22 (1).

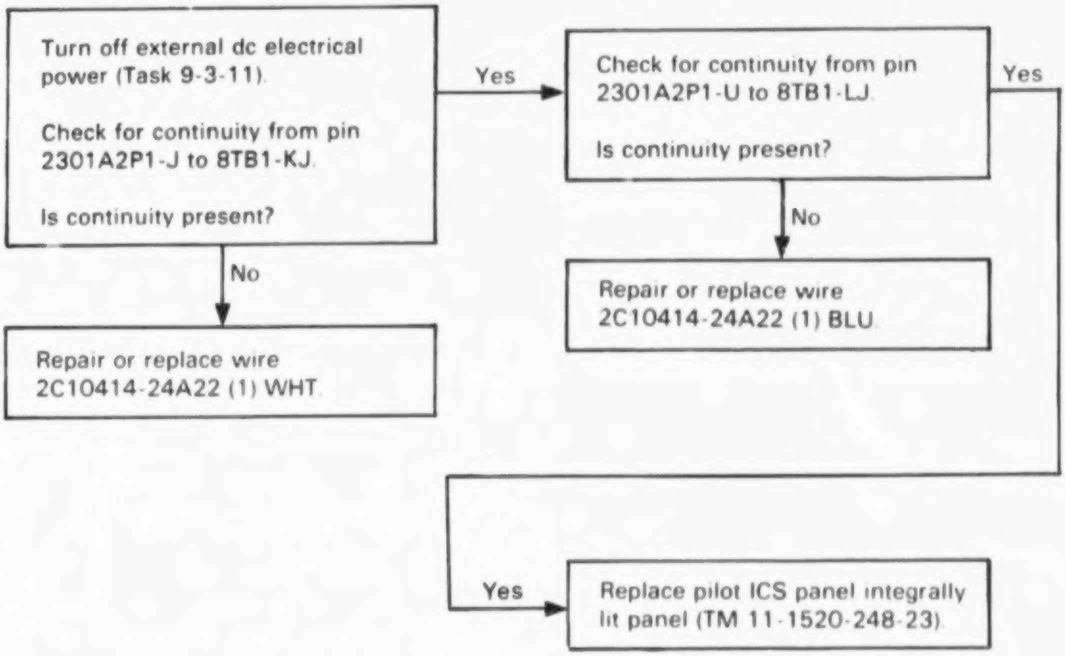
Yes
Yes
No
No
Yes
Yes
No
Yes



WSHLD POST DISC
22P3
22J3
8R1
CONSOLE LIGHT CONTROL
HV
BRT
GND
OFF
LV
L30A22 (1)
27
L30B22 (1)
3431A3
3431A3P2
J2
KEYBOARD
1
115 VAC LIGHTING POWER
2
LIGHTING GROUND
L31A22N (1)

406475-131A

177. PILOT INTERCOMMUNICATION SYSTEM (ICS) PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 2301A2P1-J to 8TB1-KJ.

Is continuity present?

Repair or replace wire 2C10414-24A22 (1) WHT.

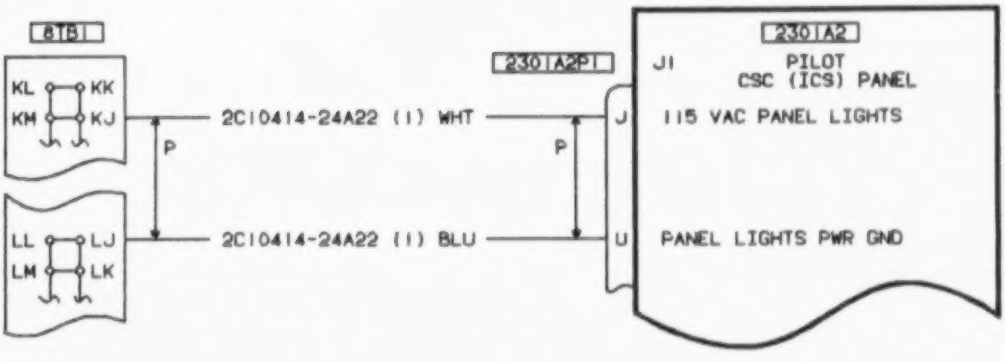
Check for continuity from pin 2301A2P1-U to 8TB1-LJ.

Is continuity present?

Repair or replace wire 2C10414-24A22 (1) BLU.

Replace pilot ICS panel integrally lit panel (TM 11-1520-248-23).

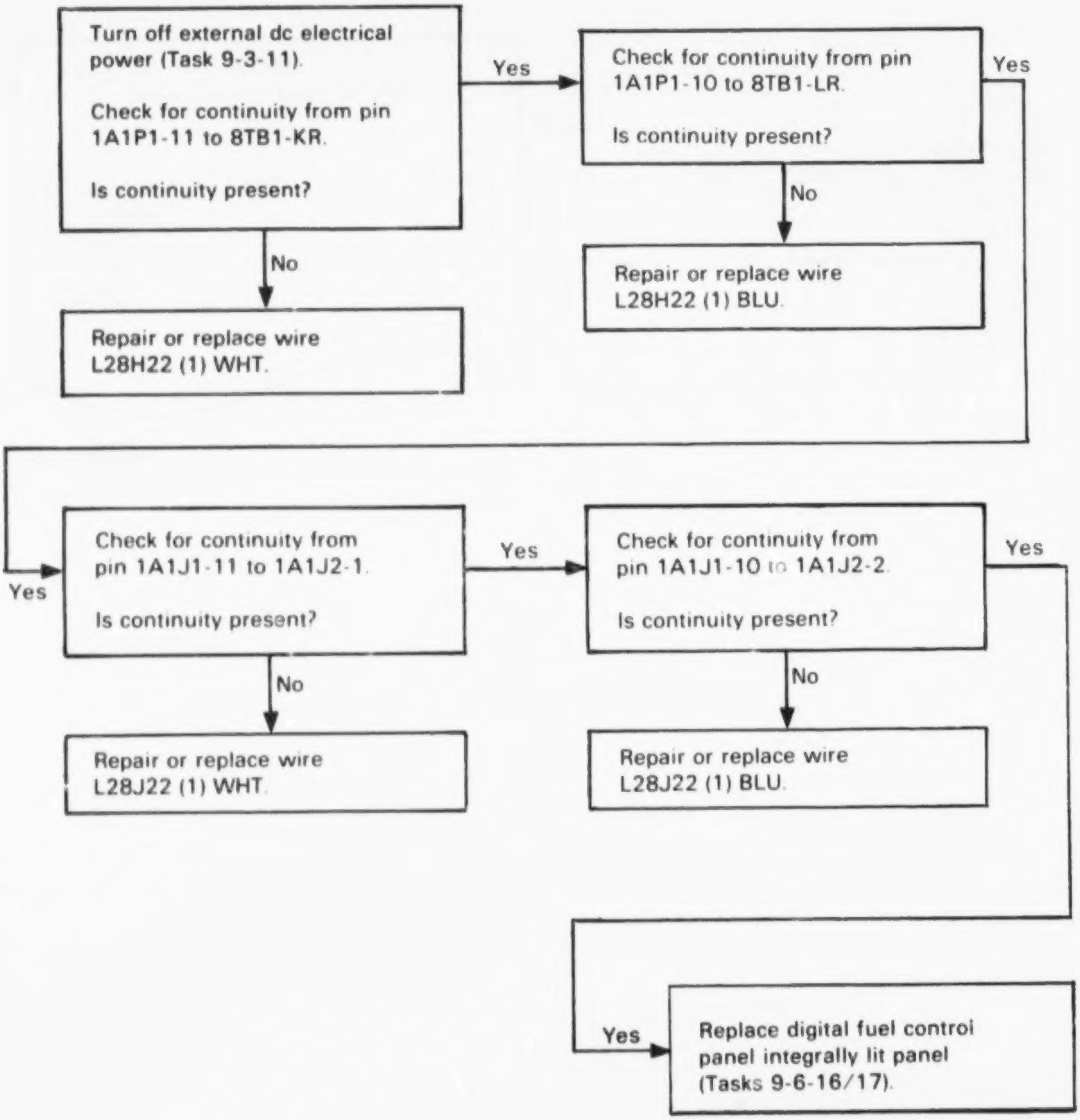
Yes
No
Yes
No
Yes



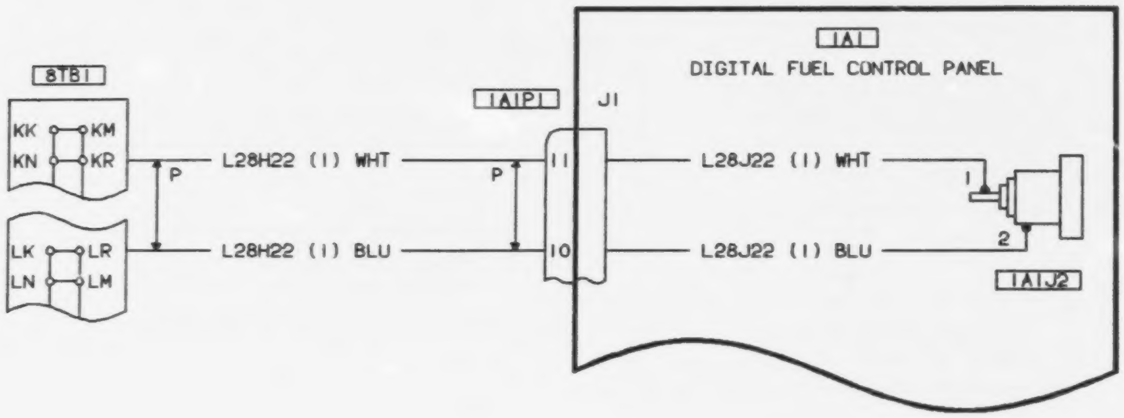
8TB1
KL
KK
KM
KJ
LL
LJ
LM
LK
P
2C10414-24A22 (1) WHT
2C10414-24A22 (1) BLU
P
2301A2P1
J
U
2301A2
J1
PILOT
CSC (ICS) PANEL
115 VAC PANEL LIGHTS
PANEL LIGHTS PWR GND

406477-18A

178. DIGITAL FUEL CONTROL PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT

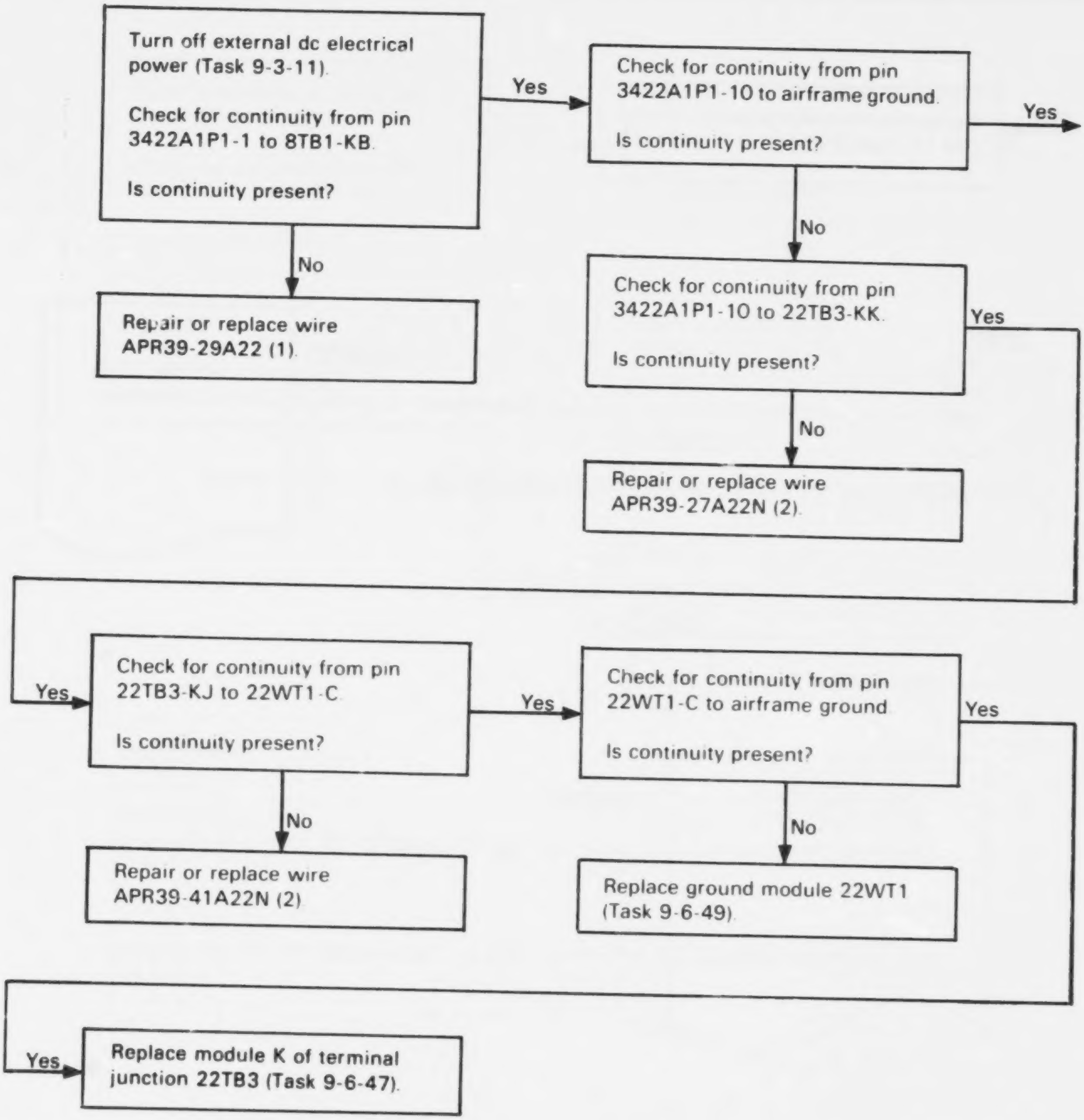

Turn off external dc electrical power (Task 9-3-11). Check for continuity from pin 1A1P1-11 to 8TB1-KR. Is continuity present?
Yes
No
Repair or replace wire L28H22 (1) WHT.
Check for continuity from pin 1A1P1-10 to 8TB1-LR. Is continuity present?
Yes
No
Repair or replace wire L28H22 (1) BLU.
Yes
Check for continuity from pin 1A1J1-11 to 1A1J2-1. Is continuity present?
Yes
No
Repair or replace wire L28J22 (1) WHT.
Check for continuity from pin 1A1J1-10 to 1A1J2-2. Is continuity present?
Yes
No
Repair or replace wire L28J22 (1) BLU.
Yes
Replace digital fuel control panel integrally lit panel (Tasks 9-6-16/17).

178. DIGITAL FUEL CONTROL PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT (CONT)


8TB1
KK
KM
KN
KR
LK
LR
LN
LM
P
L28H22 (1) WHT
L28H22 (1) BLU
1A1P1
J1
P
11
10
1A1
DIGITAL FUEL CONTROL PANEL
L28J22 (1) WHT
L28J22 (1) BLU
1
2
1A1J2

406475-132A

179. RADAR WARNING PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 3422A1P1-1 to 8TB1-KB.

Is continuity present?

Repair or replace wire APR39-29A22 (1).

Check for continuity from pin 3422A1P1-10 to airframe ground.

Is continuity present?

Check for continuity from pin 3422A1P1-10 to 22TB3-KK.

Is continuity present?

Repair or replace wire APR39-27A22N (2).

Check for continuity from pin 22TB3-KJ to 22WT1-C.

Is continuity present?

Repair or replace wire APR39-41A22N (2).

Check for continuity from pin 22WT1-C to airframe ground.

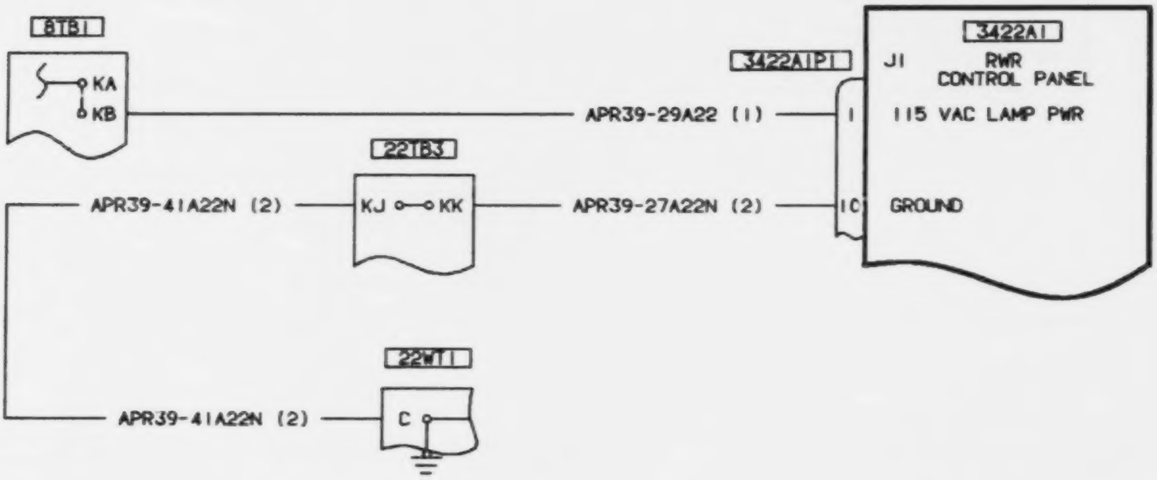
Is continuity present?

Replace ground module 22WT1 (Task 9-6-49).

Replace module K of terminal junction 22TB3 (Task 9-6-47).

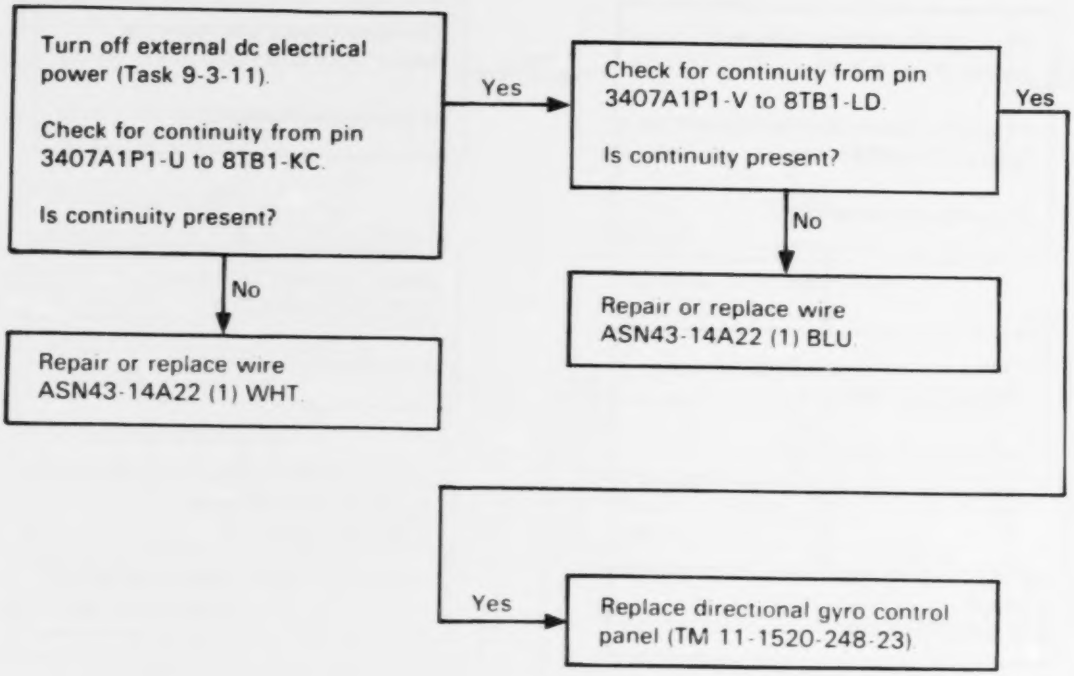
179. RADAR WARNING PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT (CONT)

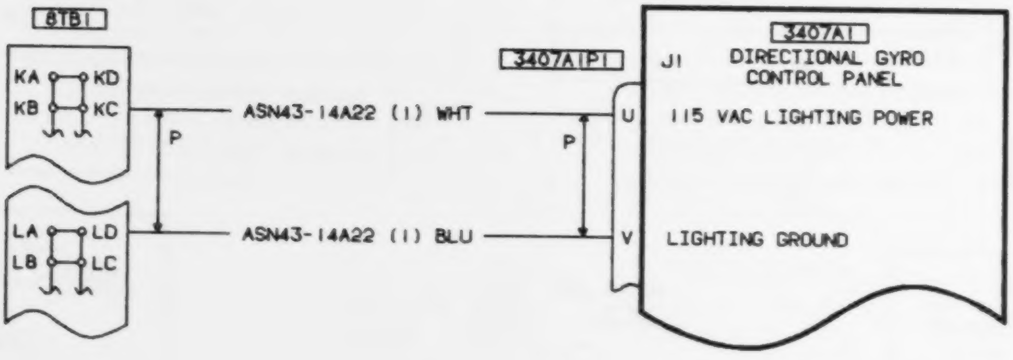
Yes → Replace radar warning panel (TM 11-1520-248-23).


8TB1
KA
KB
APR39-29A22 (1)
3422A1P1
J1
3422A1
RWR CONTROL PANEL
1
115 VAC LAMP PWR
22TB3
APR39-41A22N (2)
KJ
KK
APR39-27A22N (2)
1C
GROUND
22WT1
APR39-41A22N (2)
C

406477-20A

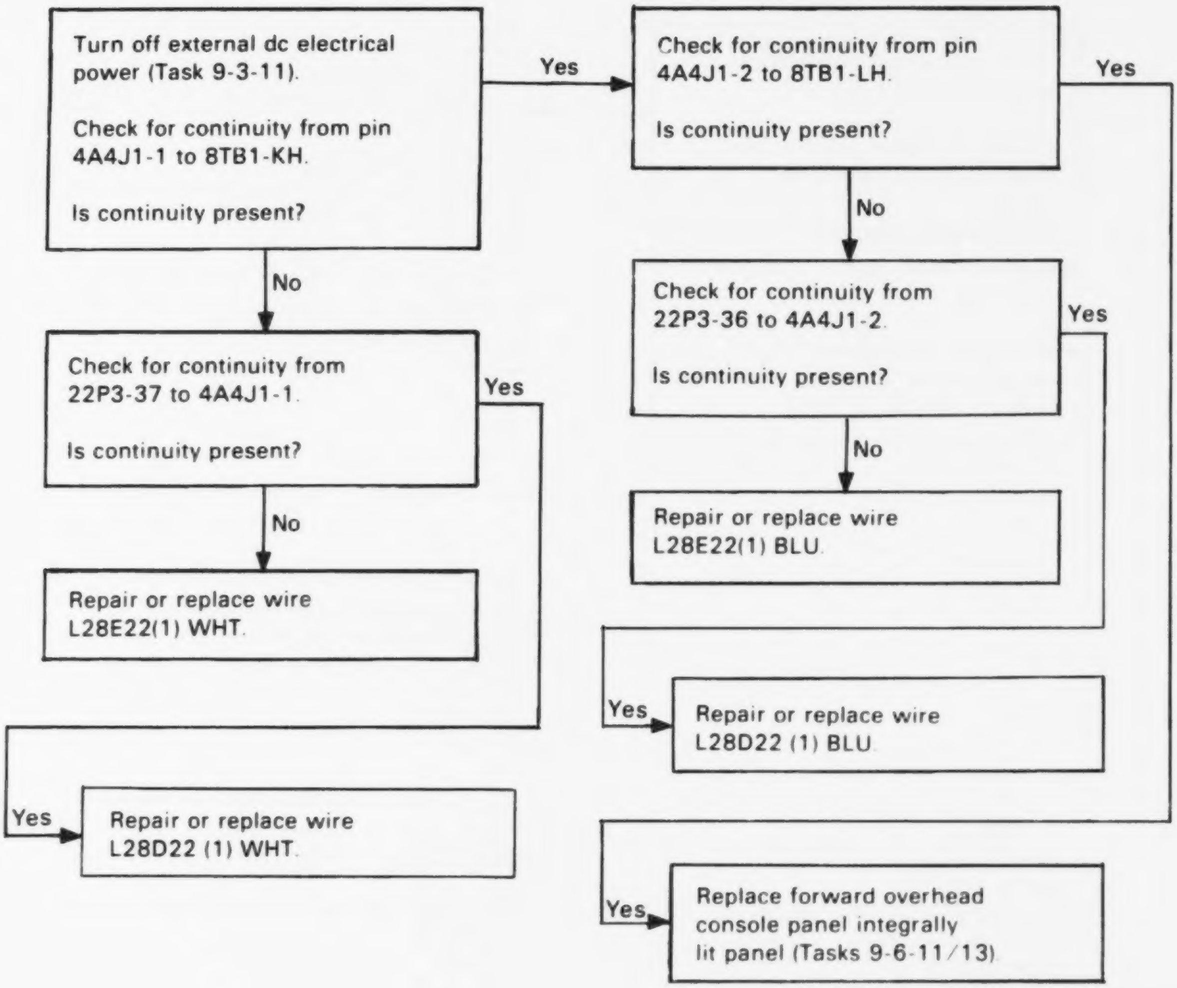
180. DIRECTIONAL GYRO CONTROL PANEL IS NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from pin 3407A1P1-U to 8TB1-KC.
Is continuity present?
Yes
No
Repair or replace wire ASN43-14A22 (1) WHT.
Check for continuity from pin 3407A1P1-V to 8TB1-LD.
Is continuity present?
Yes
No
Repair or replace wire ASN43-14A22 (1) BLU.
Yes
Replace directional gyro control panel (TM 11-1520-248-23).


8TB1
KA
KD
KB
KC
LA
LD
LB
LC
P
ASN43-14A22 (1) WHT
ASN43-14A22 (1) BLU
P
3407A1P1
J1
3407A1
DIRECTIONAL GYRO CONTROL PANEL
U
115 VAC LIGHTING POWER
V
LIGHTING GROUND

406477-19A

181. FORWARD OVERHEAD CONSOLE PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT


Yes
No
Yes
No
Yes
No
Yes
No
Yes
Yes
Yes
Yes

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 4A4J1-1 to 8TB1-KH.

Is continuity present?

Check for continuity from pin 4A4J1-2 to 8TB1-LH.

Is continuity present?

Check for continuity from 22P3-37 to 4A4J1-1.

Is continuity present?

Repair or replace wire L28E22(1) WHT.

Repair or replace wire L28D22 (1) WHT.

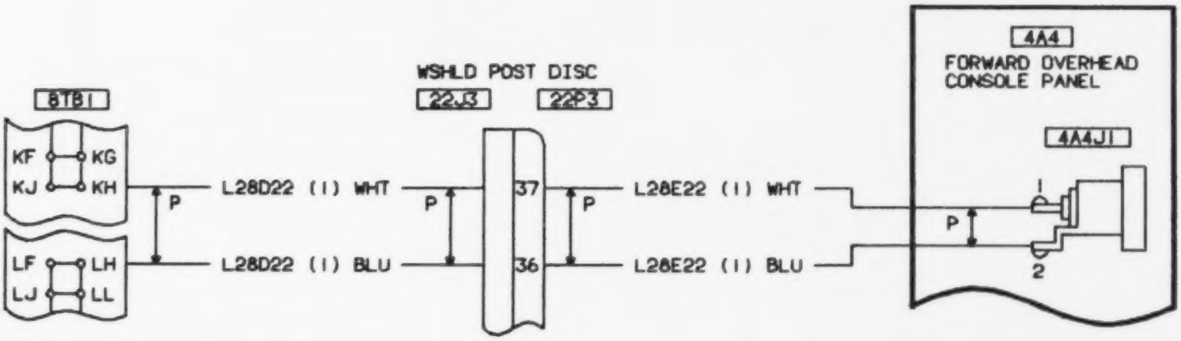
Check for continuity from 22P3-36 to 4A4J1-2.

Is continuity present?

Repair or replace wire L28E22(1) BLU.

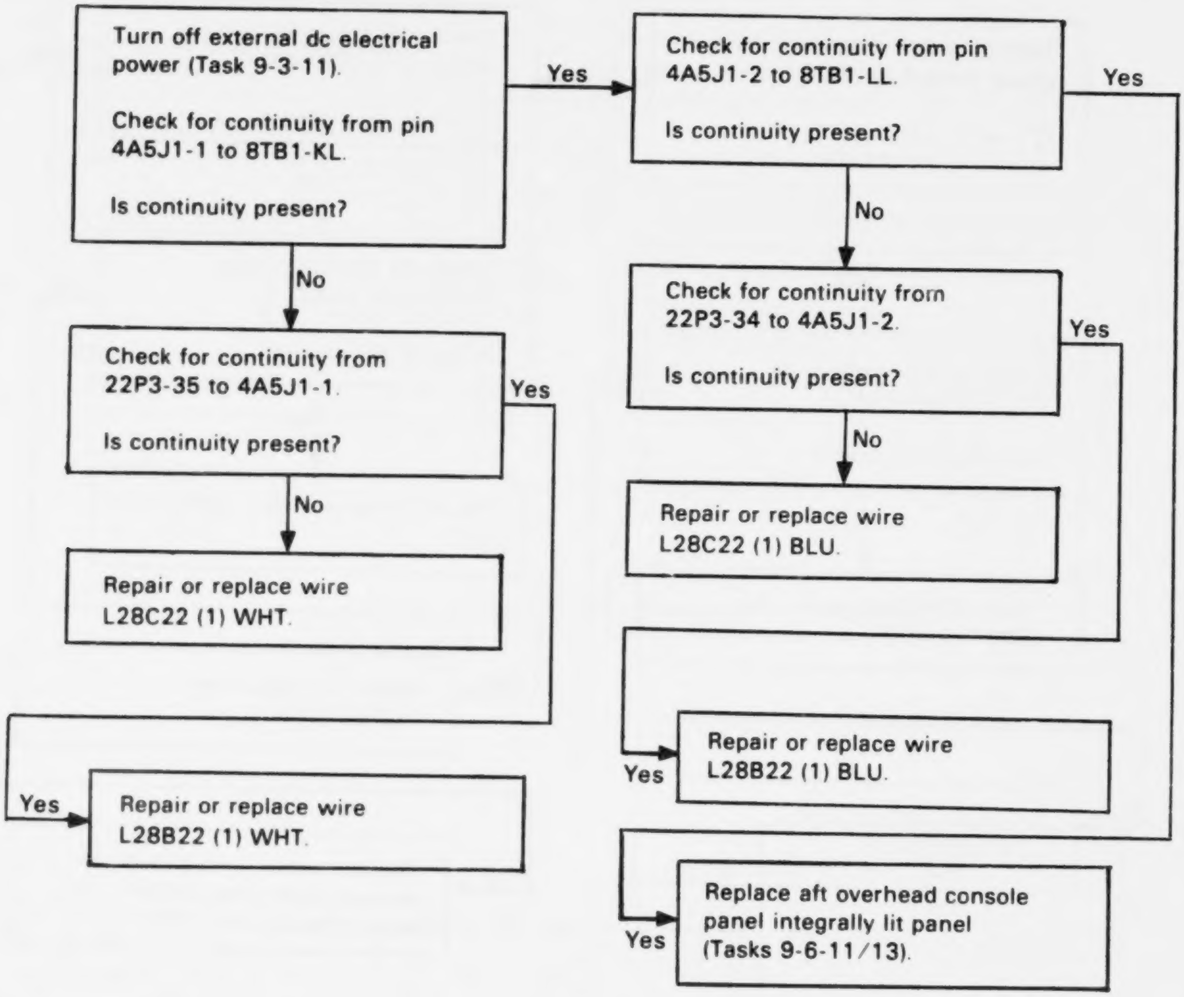
Repair or replace wire L28D22 (1) BLU.

Replace forward overhead console panel integrally lit panel (Tasks 9-6-11/13).


8TB1
KF
KG
KJ
KH
LF
LH
LJ
LL
P
L28D22 (1) WHT
L28D22 (1) BLU
WSHLD POST DISC
22J3
22P3
P
37
36
P
L28E22 (1) WHT
L28E22 (1) BLU
4A4
FORWARD OVERHEAD CONSOLE PANEL
4A4J1
1
2
P

406475-140A

182. AFT OVERHEAD CONSOLE PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 4A5J1-1 to 8TB1-KL.

Is continuity present?

Check for continuity from 22P3-35 to 4A5J1-1.

Is continuity present?

Repair or replace wire L28C22 (1) WHT.

Repair or replace wire L28B22 (1) WHT.

Check for continuity from pin 4A5J1-2 to 8TB1-LL.

Is continuity present?

Check for continuity from 22P3-34 to 4A5J1-2.

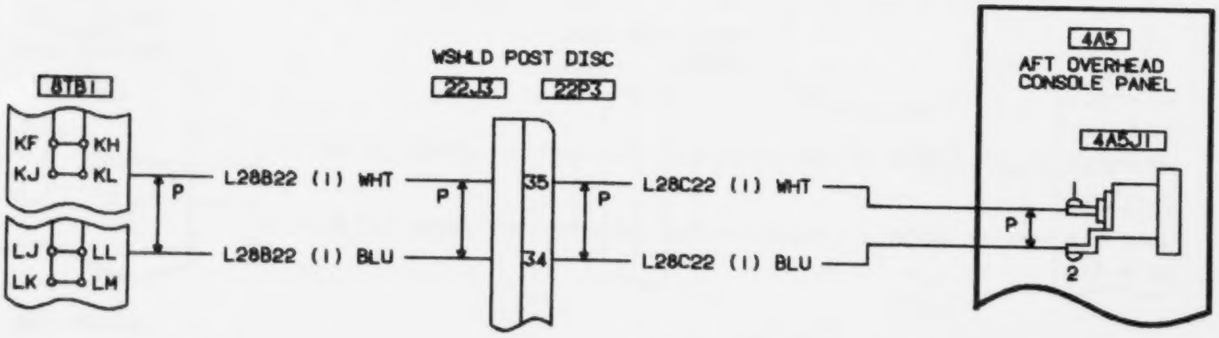
Is continuity present?

Repair or replace wire L28C22 (1) BLU.

Repair or replace wire L28B22 (1) BLU.

Replace aft overhead console panel integrally lit panel (Tasks 9-6-11/13).

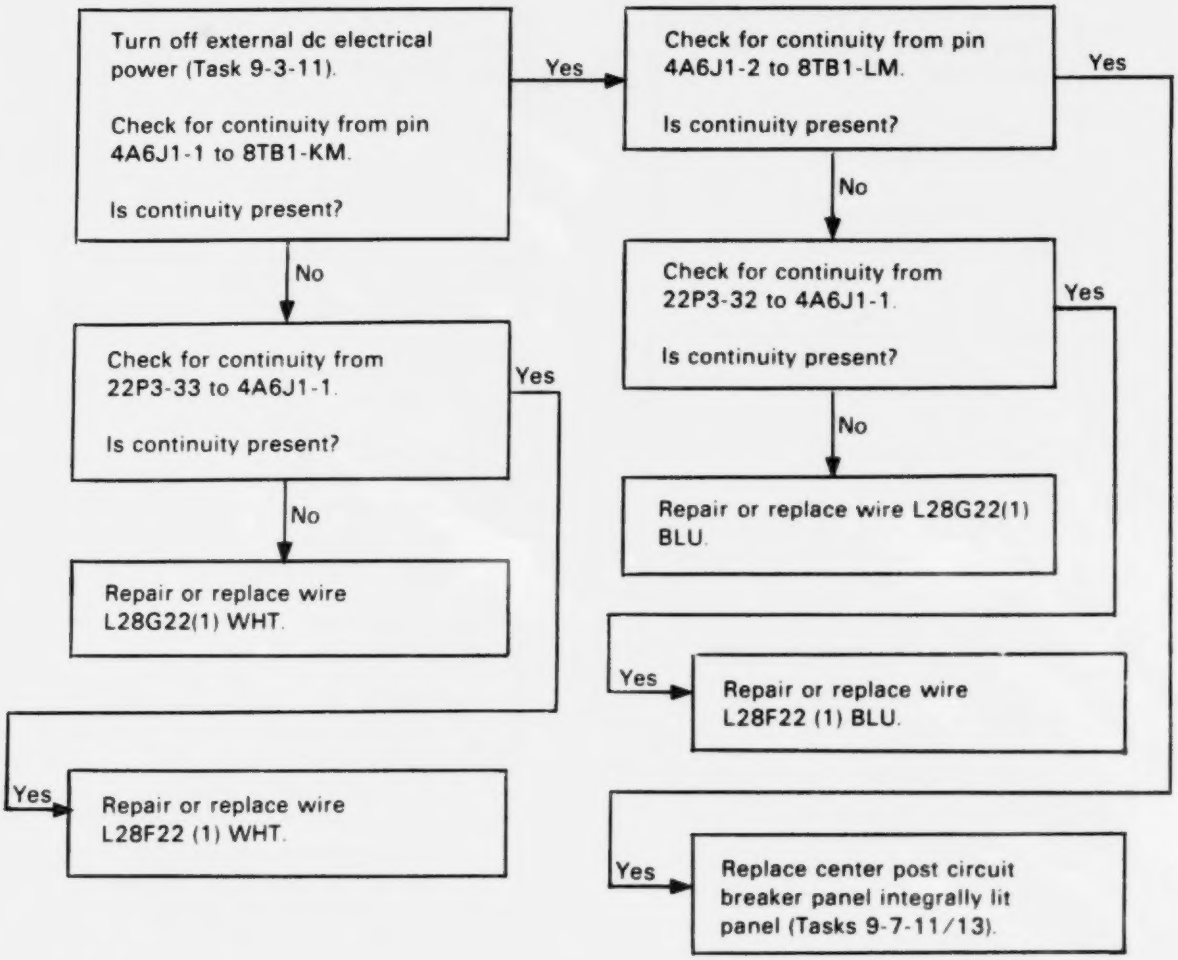
Yes
No
Yes
No
Yes
No
Yes
No
Yes
Yes
Yes



8TB1
KF
KH
KJ
KL
LJ
LL
LK
LM
P
L28B22 (1) WHT
L28B22 (1) BLU
WSHLD POST DISC
22J3
22P3
35
34
P
P
L28C22 (1) WHT
L28C22 (1) BLU
4A5
AFT OVERHEAD CONSOLE PANEL
4A5J1
P
1
2

406475-141A

183. CENTER POST CIRCUIT BREAKER PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 4A6J1-1 to 8TB1-KM.

Is continuity present?

Check for continuity from 22P3-33 to 4A6J1-1.

Is continuity present?

Repair or replace wire L28G22(1) WHT.

Repair or replace wire L28F22 (1) WHT.

Check for continuity from pin 4A6J1-2 to 8TB1-LM.

Is continuity present?

Check for continuity from 22P3-32 to 4A6J1-1.

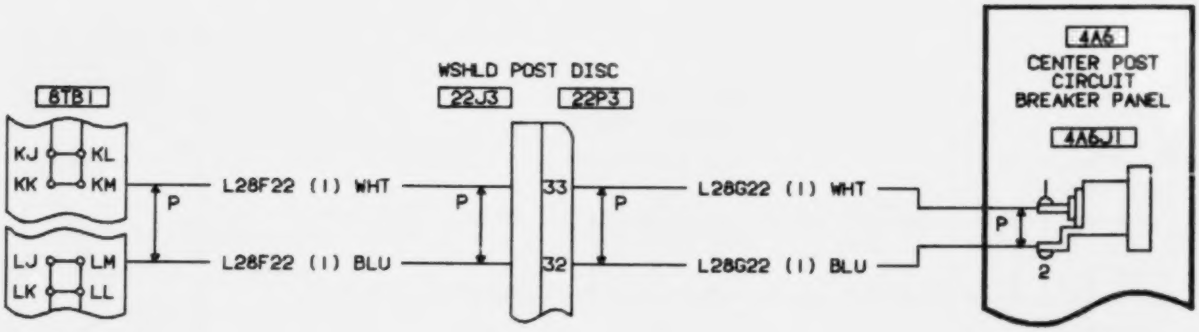
Is continuity present?

Repair or replace wire L28G22(1) BLU.

Repair or replace wire L28F22 (1) BLU.

Replace center post circuit breaker panel integrally lit panel (Tasks 9-7-11/13).

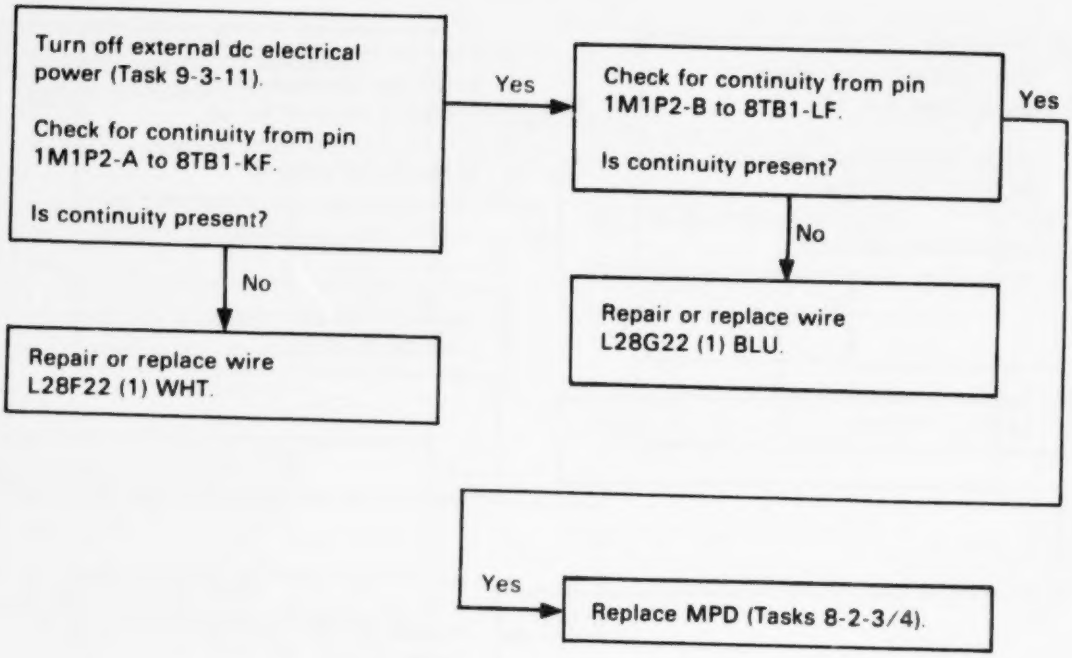
Yes
No
Yes
No
Yes
Yes
No
Yes
No
Yes
Yes



8TB1
KJ
KL
KK
KM
LJ
LM
LK
LL
P
L28F22 (1) WHT
L28F22 (1) BLU
WSHLD POST DISC
22J3
22P3
P
33
32
P
L28G22 (1) WHT
L28G22 (1) BLU
4A6
CENTER POST CIRCUIT BREAKER PANEL
4A6J1
P
1
2

406475-142B

184. MULTIPARAMETER DISPLAY (MPD) NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 1M1P2-A to 8TB1-KF.

Is continuity present?

Repair or replace wire L28F22 (1) WHT.

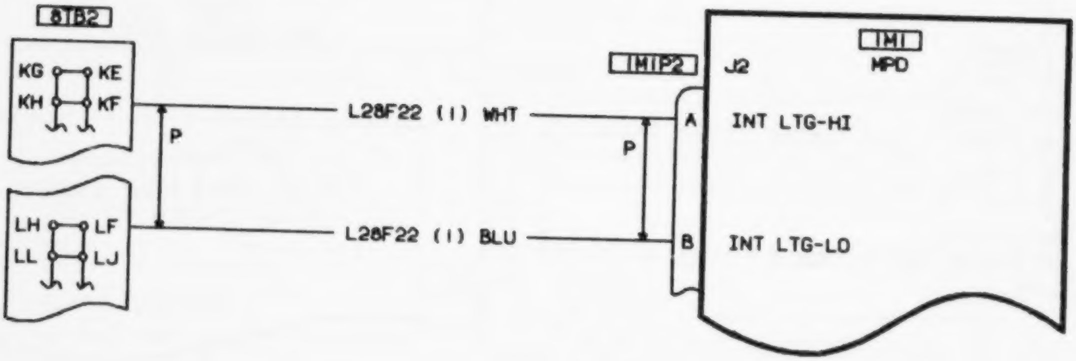
Check for continuity from pin 1M1P2-B to 8TB1-LF.

Is continuity present?

Repair or replace wire L28G22 (1) BLU.

Replace MPD (Tasks 8-2-3/4).

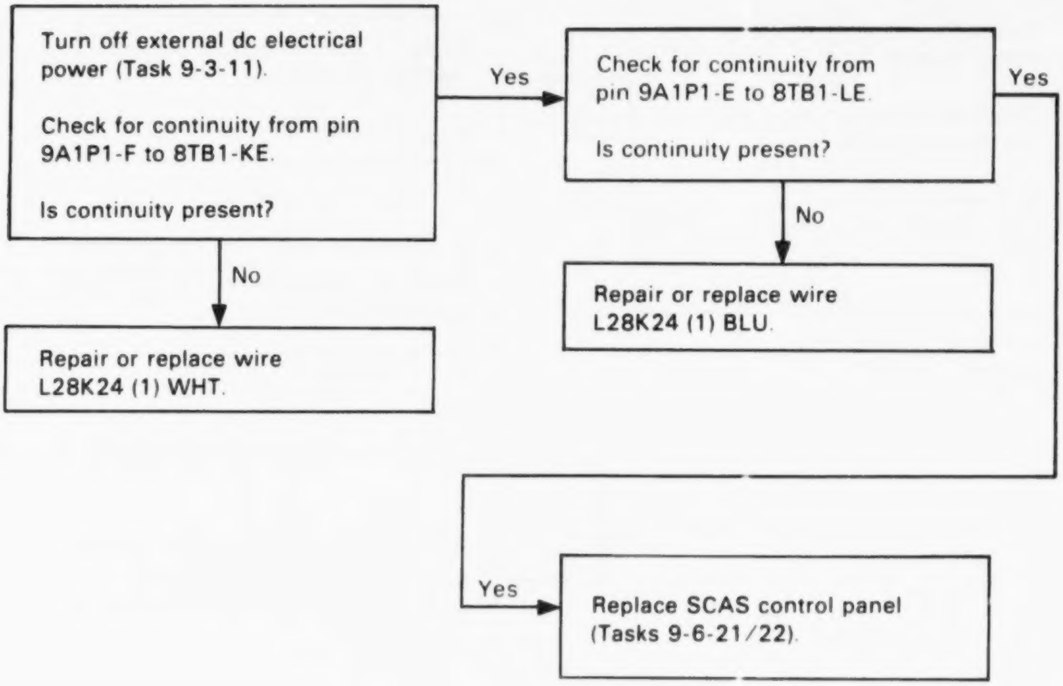
Yes
No
Yes
No
Yes



8TB2
KG
KE
KH
KF
LH
LF
LL
LJ
P
L28F22 (1) WHT
L28F22 (1) BLU
P
1M1P2
J2
1M1
MPD
A
INT LTG-HI
B
INT LTG-LO

406475-133A

185. STABILITY AND CONTROL AUGMENTATION SYSTEM (SCAS) CONTROL PANEL NOT LIT AFTER CONSOLE LT CONTROL IS TURNED FROM OFF TO BRT



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 9A1P1-F to 8TB1-KE.

Is continuity present?

Repair or replace wire L28K24 (1) WHT.

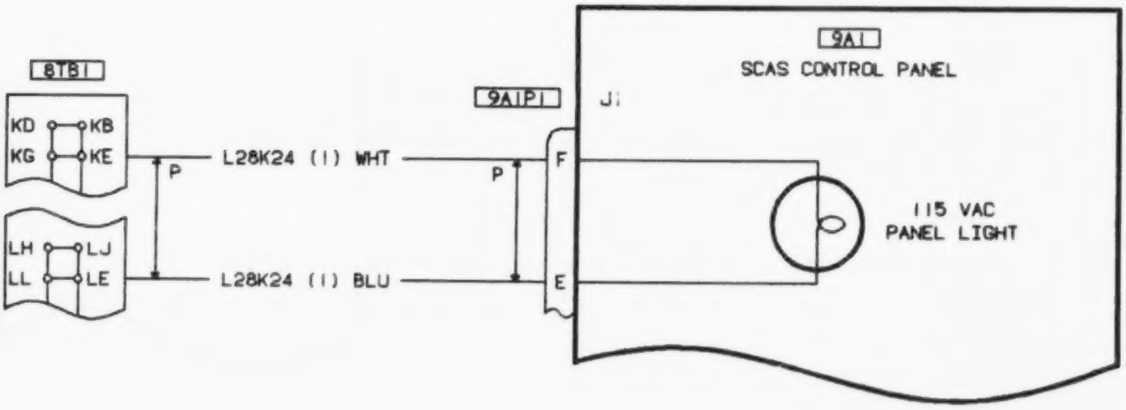
Check for continuity from pin 9A1P1-E to 8TB1-LE.

Is continuity present?

Repair or replace wire L28K24 (1) BLU.

Replace SCAS control panel (Tasks 9-6-21/22).

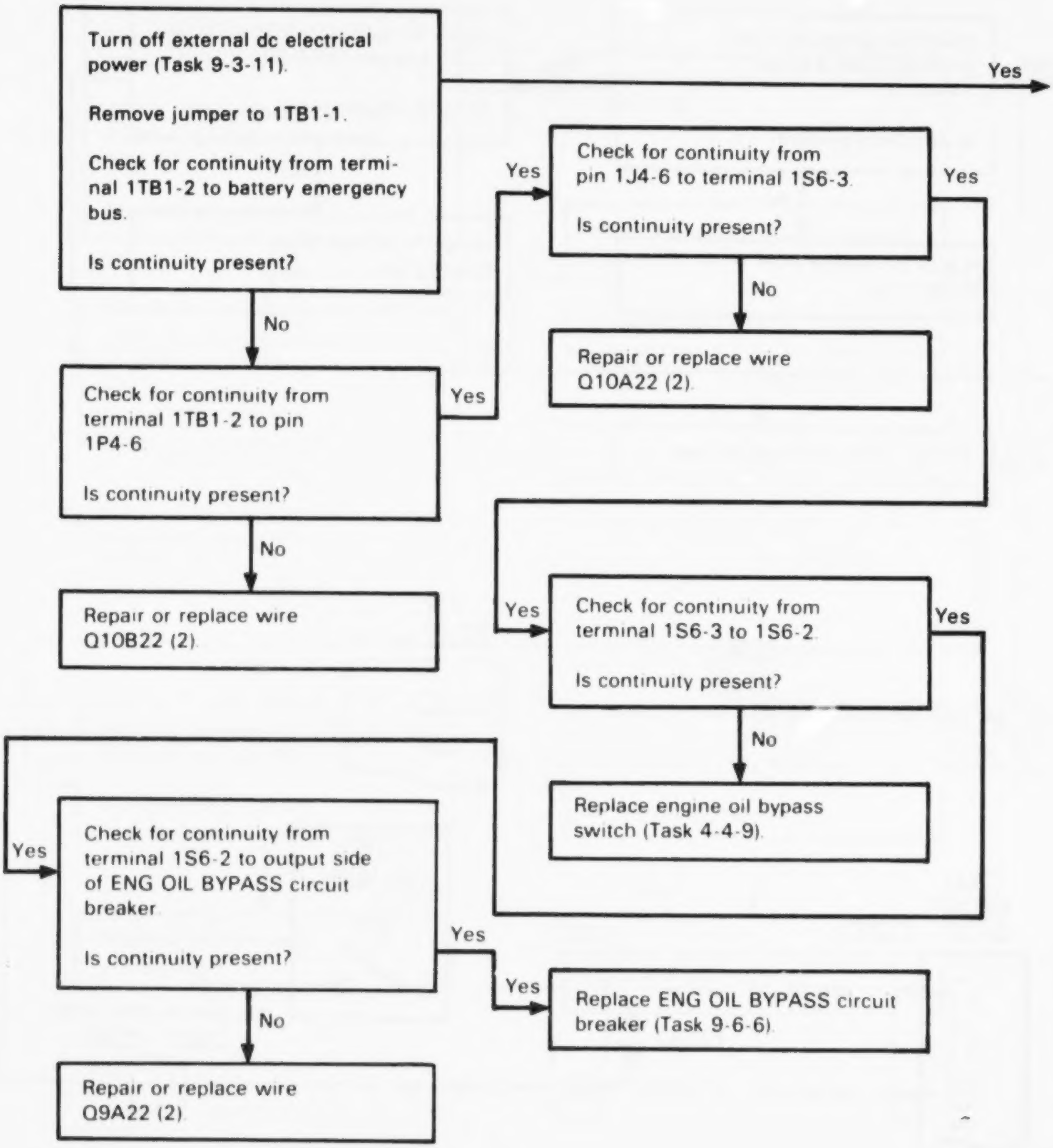
Yes
No
Yes
No
Yes



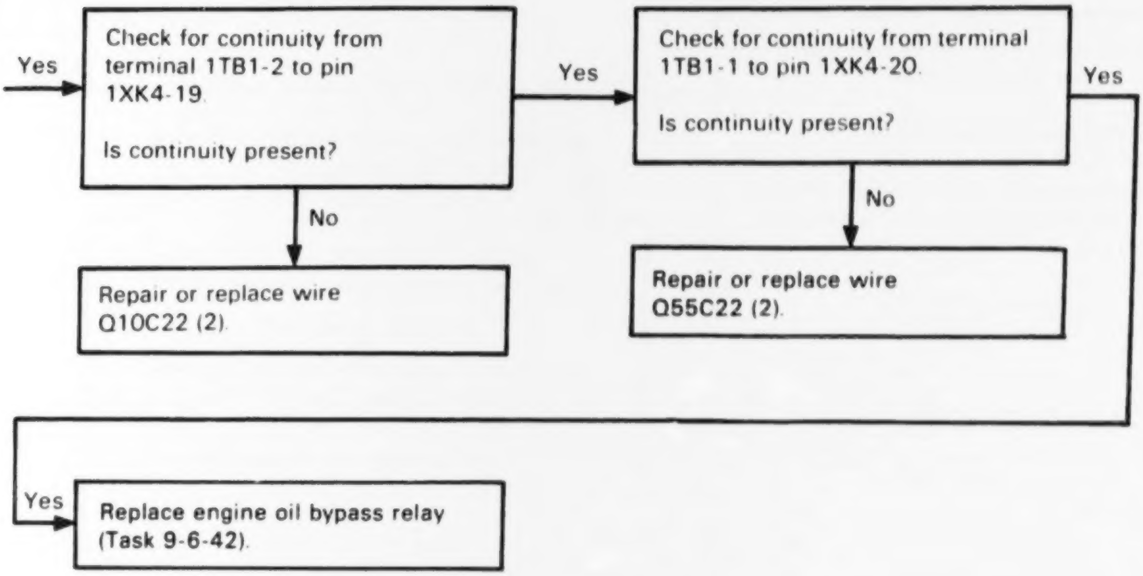
8TB1
KD
KB
KG
KE
LH
LJ
LL
LE
P
L28K24 (1) WHT
L28K24 (1) BLU
9A1P1
P
F
E
J1
9A1
SCAS CONTROL PANEL
115 VAC
PANEL LIGHT

406475-139A

186. ENGINE OIL BYPASS RELAY NOT ACTUATED (NO VOLTAGE ON 1TB1-3) (1TB1-1 JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO)


Turn off external dc electrical power (Task 9-3-11).
Remove jumper to 1TB1-1.
Check for continuity from terminal 1TB1-2 to battery emergency bus.
Is continuity present?
Yes
No
Check for continuity from terminal 1TB1-2 to pin 1P4-6.
Is continuity present?
Yes
No
Repair or replace wire Q10B22 (2).
Yes
Check for continuity from pin 1J4-6 to terminal 1S6-3.
Is continuity present?
Yes
No
Repair or replace wire Q10A22 (2).
Yes
Check for continuity from terminal 1S6-3 to 1S6-2.
Is continuity present?
Yes
No
Replace engine oil bypass switch (Task 4-4-9).
Yes
Check for continuity from terminal 1S6-2 to output side of ENG OIL BYPASS circuit breaker.
Is continuity present?
Yes
No
Repair or replace wire Q9A22 (2).
Yes
Replace ENG OIL BYPASS circuit breaker (Task 9-6-6).

186. ENGINE OIL BYPASS RELAY NOT ACTUATED (NO VOLTAGE ON 1TB1-3) (1TB1-1 JUMPERED TO GROUND AND ENG OIL BYPASS SWITCH SET TO AUTO) (CONT)



Yes

Check for continuity from terminal 1TB1-2 to pin 1XK4-19.

Is continuity present?

No

Repair or replace wire Q10C22 (2).

Yes

Check for continuity from terminal 1TB1-1 to pin 1XK4-20.

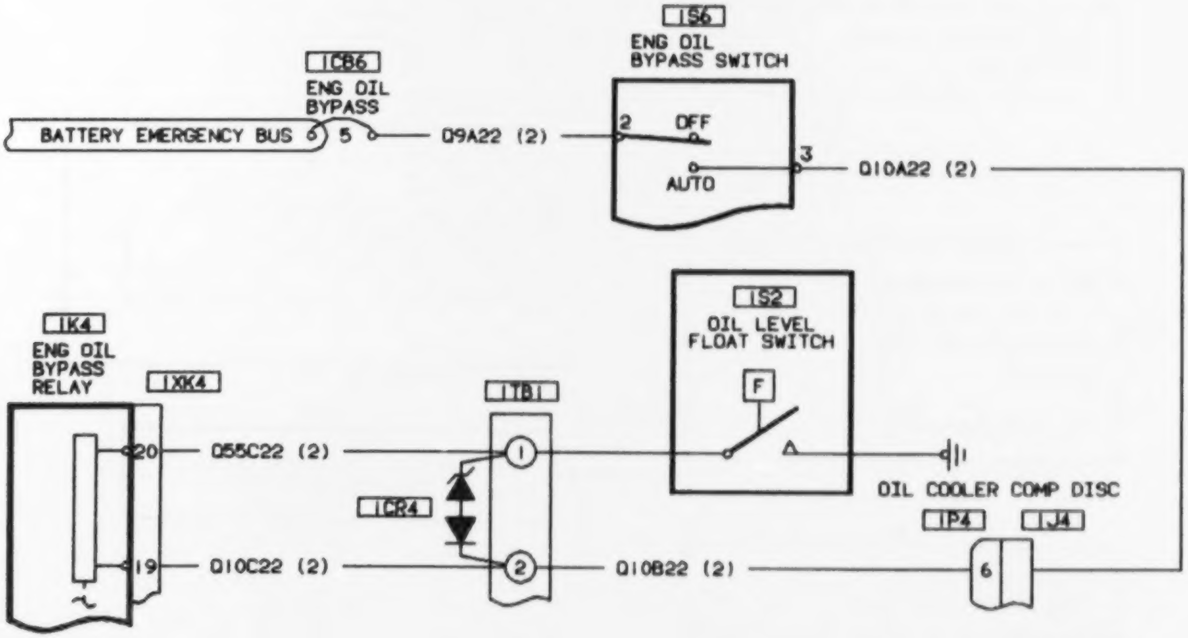
Is continuity present?

No

Repair or replace wire Q55C22 (2).

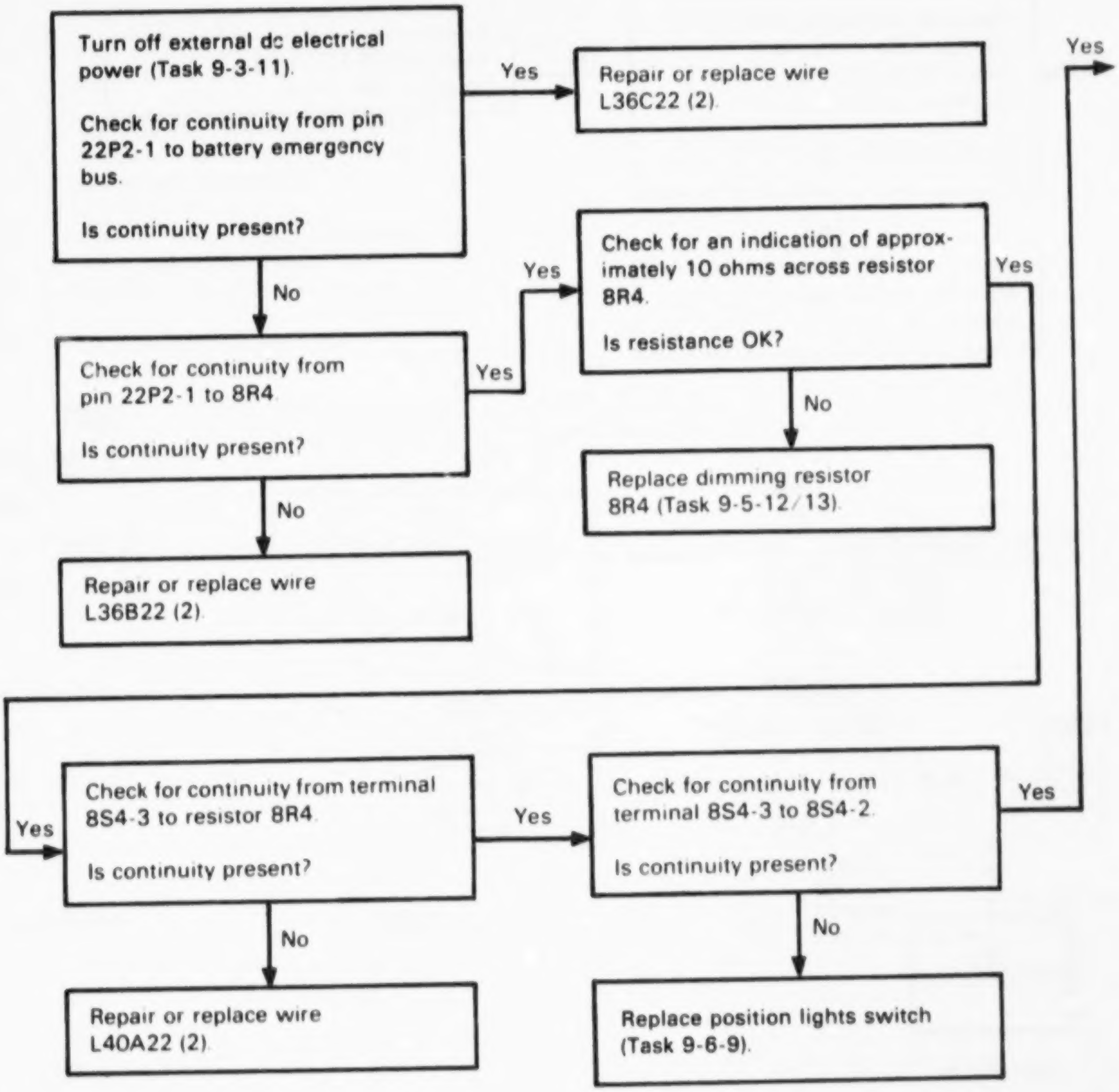
Yes

Replace engine oil bypass relay (Task 9-6-42).


1S6
ENG OIL BYPASS SWITCH
1CB6
ENG OIL BYPASS
BATTERY EMERGENCY BUS
5
Q9A22 (2)
2
OFF
AUTO
3
Q10A22 (2)
1S2
OIL LEVEL FLOAT SWITCH
F
1K4
ENG OIL BYPASS RELAY
1XK4
20
19
Q55C22 (2)
Q10C22 (2)
1TB1
1
2
1CR4
Q10B22 (2)
OIL COOLER COMP DISC
1P4
1J4
6

406475-143A

187. POSITION LIGHTS DO NOT COME ON (POSITION LIGHTS SWITCH SET TO DIM)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 22P2-1 to battery emergency bus.

Is continuity present?

Repair or replace wire L36C22 (2).

Check for continuity from pin 22P2-1 to 8R4.

Is continuity present?

Repair or replace wire L36B22 (2).

Check for an indication of approximately 10 ohms across resistor 8R4.

Is resistance OK?

Replace dimming resistor 8R4 (Task 9-5-12/13).

Check for continuity from terminal 8S4-3 to resistor 8R4.

Is continuity present?

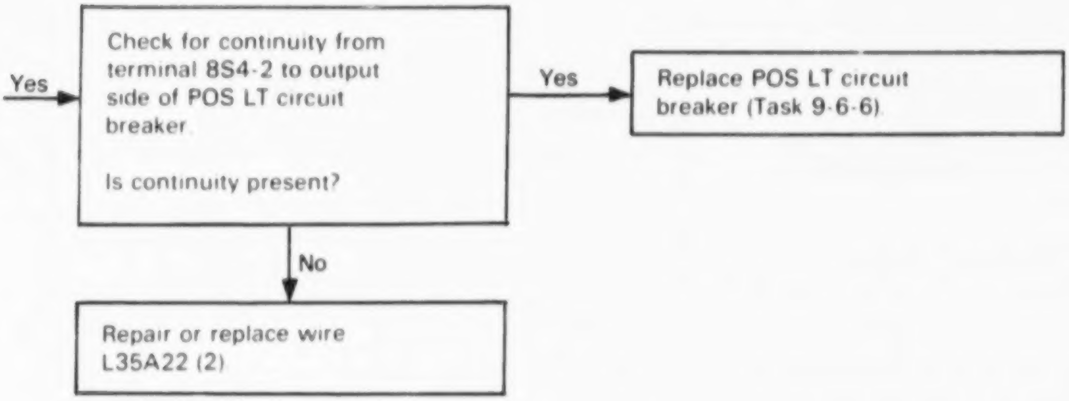
Repair or replace wire L40A22 (2).

Check for continuity from terminal 8S4-3 to 8S4-2.

Is continuity present?

Replace position lights switch (Task 9-6-9).

187. POSITION LIGHTS DO NOT COME ON (POSITION LIGHTS SWITCH SET TO DIM) (CONT)

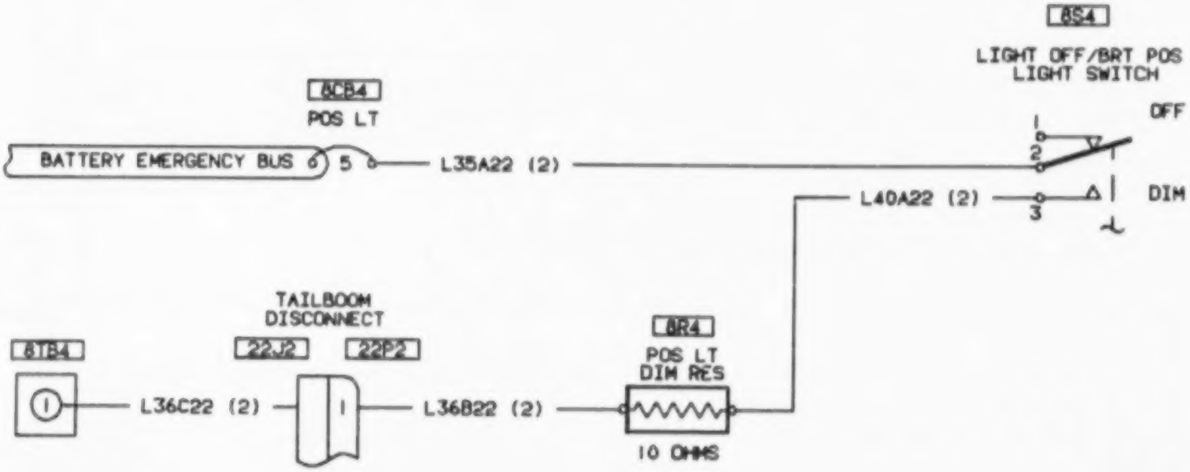


Check for continuity from terminal 8S4-2 to output side of POS LT circuit breaker.

Is continuity present?

Replace POS LT circuit breaker (Task 9-6-6).

Repair or replace wire L35A22 (2)


8S4
LIGHT OFF/BRT POS LIGHT SWITCH
OFF
DIM
1
2
3
8CB4
POS LT
BATTERY EMERGENCY BUS
5
L35A22 (2)
L40A22 (2)
TAILBOOM DISCONNECT
8TB4
22J2
22P2
1
L36C22 (2)
1
L36B22 (2)
8R4
POS LT DIM RES
10 OHMS

406475-144A

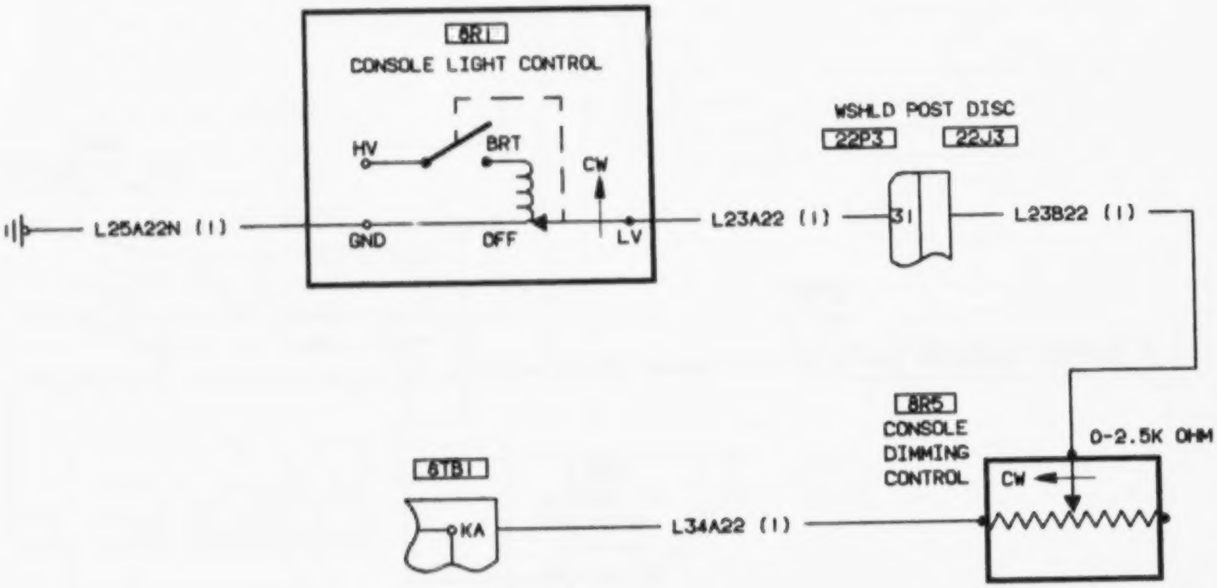
188. CONSOLE DIMMING CONTROL CAUSES PANELS TO DIM WHEN SHAFT IS TURNED CLOCKWISE

Turn off external dc electrical power (Task 9-3-11).

Turn control 8R5 clockwise until 0 ohm is indicated from wiper to one terminal of 8R5.

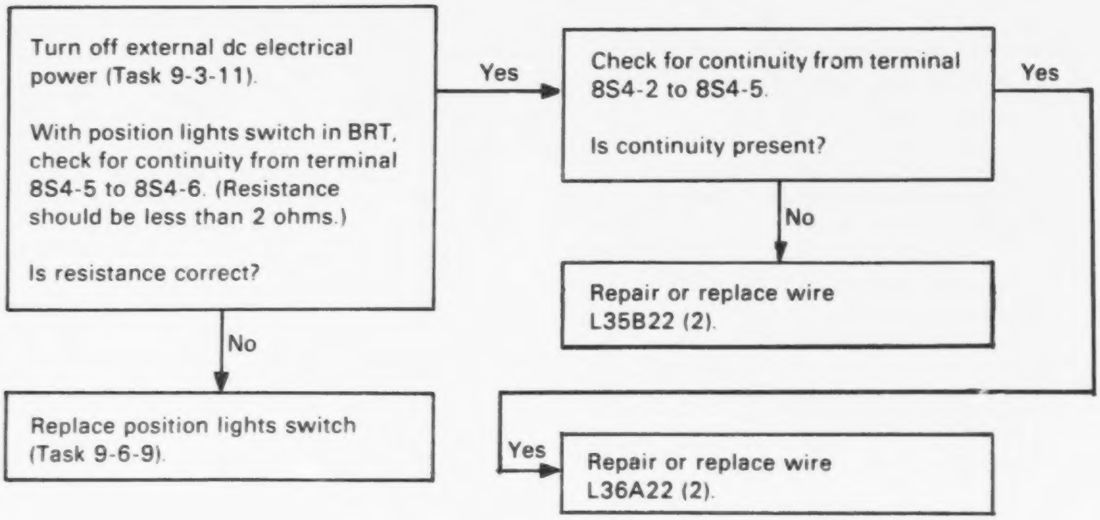
Connect wire L23B22 (1) to 8R5 wiper and wire L34A22 (1) to terminal that indicated 0 ohms.

Perform operational check (Task 9-1-21).


8R1
CONSOLE LIGHT CONTROL
HV
BRT
CW
GND
OFF
LV
L25A22N (1)
L23A22 (1)
WSHLD POST DISC
22P3
22J3
31
L23B22 (1)
8R5
CONSOLE DIMMING CONTROL
0-2.5K OHM
CW
6TB1
KA
L34A22 (1)

406475-157A

189. POSITION LIGHTS DO NOT GET BRIGHT WHEN SWITCHED FROM DIM TO BRT



Turn off external dc electrical power (Task 9-3-11).

With position lights switch in BRT, check for continuity from terminal 8S4-5 to 8S4-6. (Resistance should be less than 2 ohms.)

Is resistance correct?

Check for continuity from terminal 8S4-2 to 8S4-5.

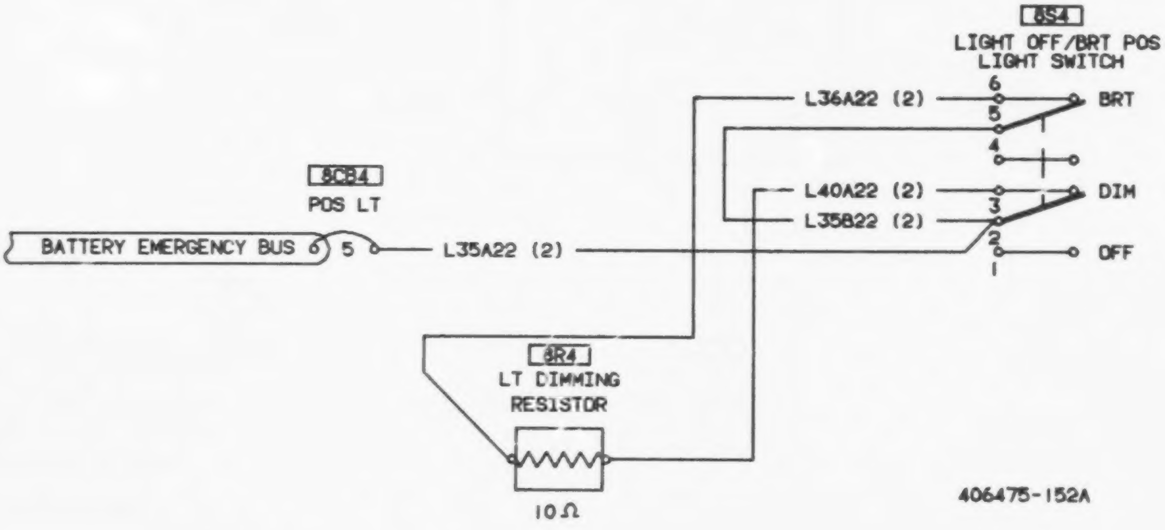
Is continuity present?

Repair or replace wire L35B22 (2).

Replace position lights switch (Task 9-6-9).

Repair or replace wire L36A22 (2).

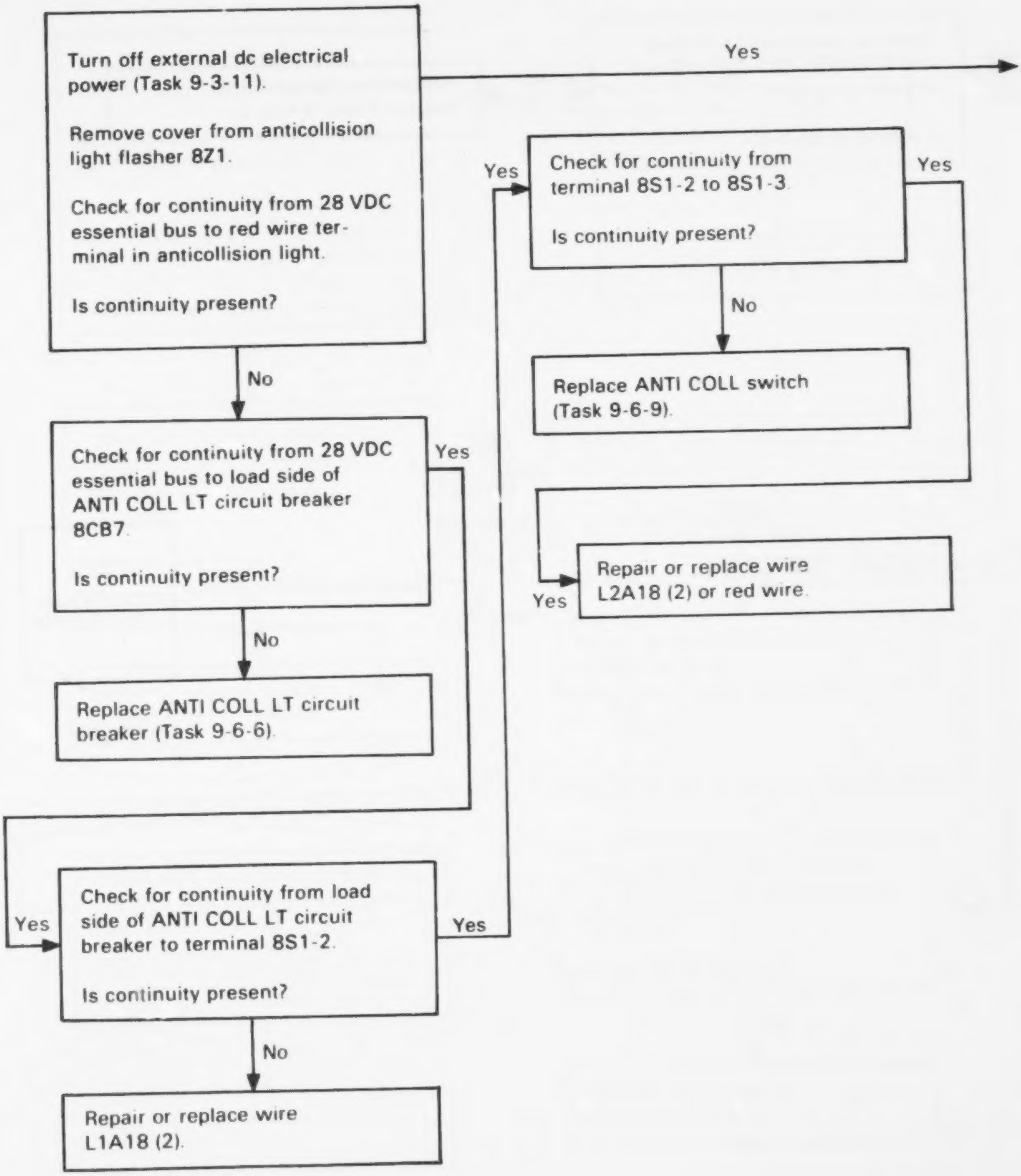
Yes
No
Yes
No
Yes



8S4
LIGHT OFF/BRT POS LIGHT SWITCH
6
5
4
3
2
1
BRT
DIM
OFF
L36A22 (2)
L40A22 (2)
L35B22 (2)
8CB4
POS LT
BATTERY EMERGENCY BUS
5
L35A22 (2)
8R4
LT DIMMING RESISTOR
10Ω

406475-152A

190. ANTICOLLISION LIGHTS DO NOT FLASH (ANTI COLL SWITCH IN ANTI COLL)



Turn off external dc electrical power (Task 9-3-11).

Remove cover from anticollision light flasher 8Z1.

Check for continuity from 28 VDC essential bus to red wire terminal in anticollision light.

Is continuity present?

Check for continuity from 28 VDC essential bus to load side of ANTI COLL LT circuit breaker 8CB7.

Is continuity present?

Replace ANTI COLL LT circuit breaker (Task 9-6-6).

Check for continuity from load side of ANTI COLL LT circuit breaker to terminal 8S1-2.

Is continuity present?

Repair or replace wire L1A18 (2).

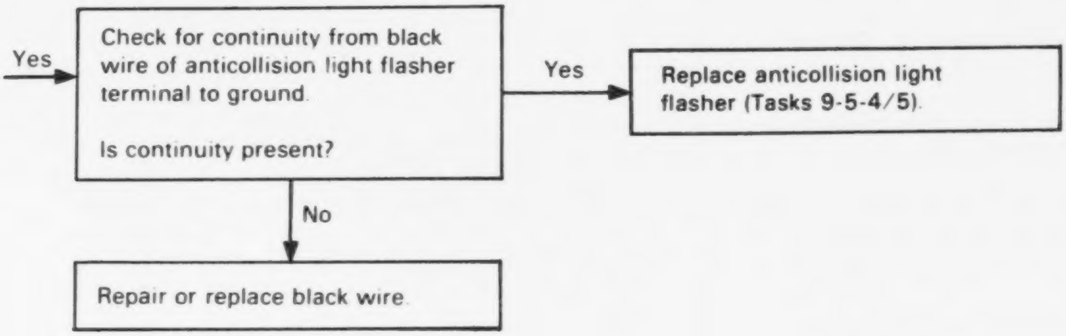
Check for continuity from terminal 8S1-2 to 8S1-3.

Is continuity present?

Replace ANTI COLL switch (Task 9-6-9).

Repair or replace wire L2A18 (2) or red wire.

190. ANTICOLLISION LIGHTS DO NOT FLASH (ANTI COLL SWITCH IN ANTI COLL) (CONT)

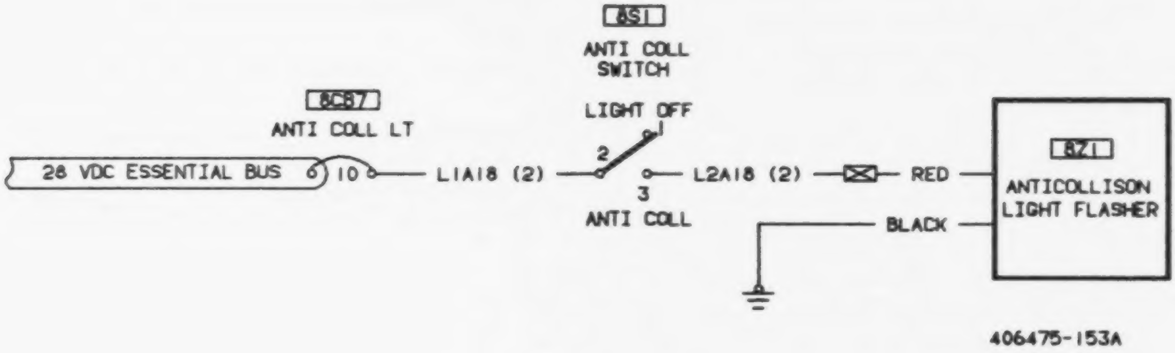


Check for continuity from black wire of anticollision light flasher terminal to ground.

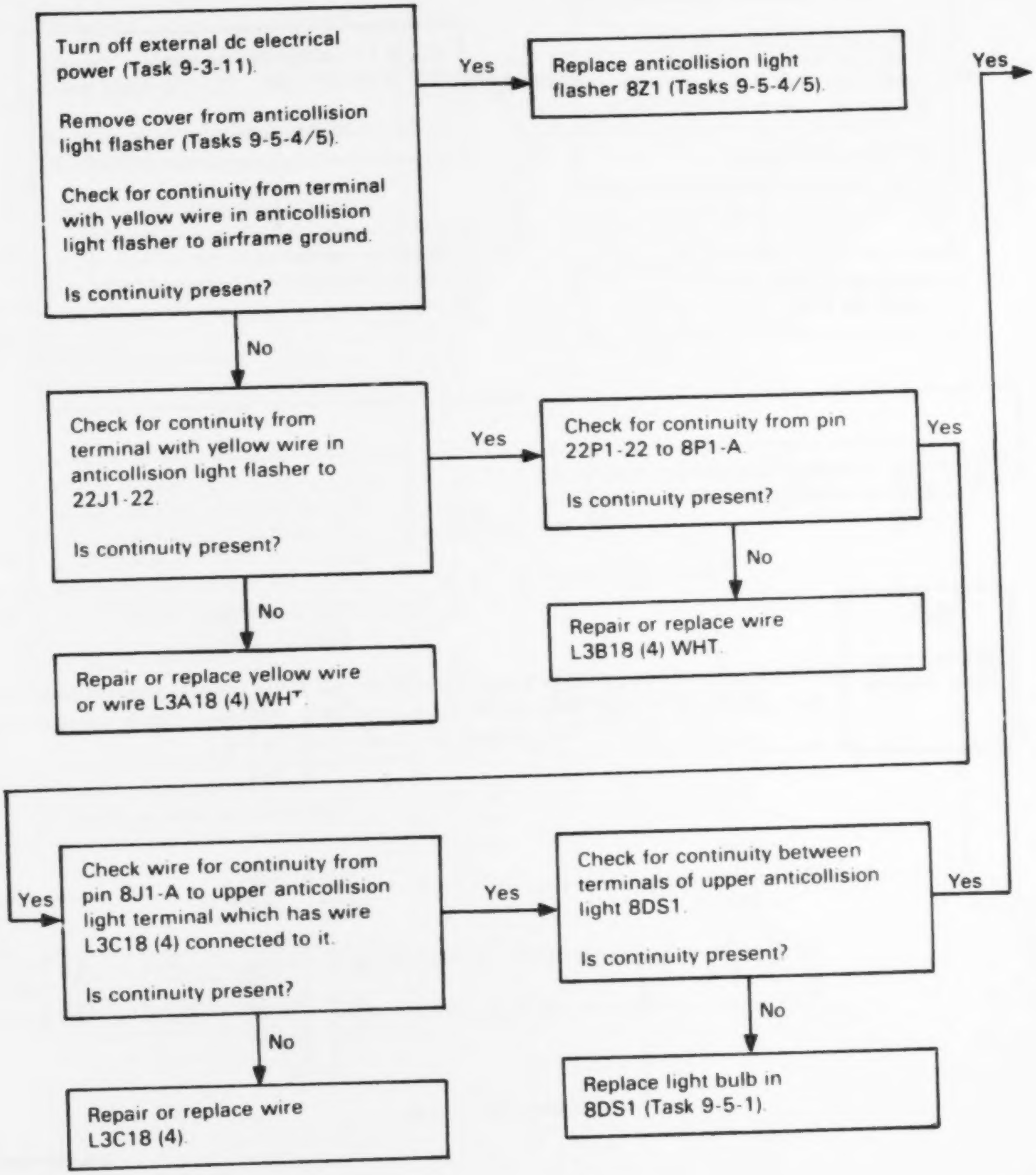
Is continuity present?

Replace anticollision light flasher (Tasks 9-5-4/5).

Repair or replace black wire.


8S1
ANTI COLL SWITCH
8CB7
ANTI COLL LT
LIGHT OFF
1
2
28 VDC ESSENTIAL BUS
10
L1A18 (2)
3
ANTI COLL
L2A18 (2)
RED
BLACK
8Z1
ANTICOLLISON LIGHT FLASHER
406475-153A

191. UPPER ANTICOLLISION LIGHT DOES NOT FLASH (ANTI COLL SWITCH IN ANTI COLL)



Turn off external dc electrical power (Task 9-3-11).

Remove cover from anticollision light flasher (Tasks 9-5-4/5).

Check for continuity from terminal with yellow wire in anticollision light flasher to airframe ground.

Is continuity present?

Replace anticollision light flasher 8Z1 (Tasks 9-5-4/5).

Check for continuity from terminal with yellow wire in anticollision light flasher to 22J1-22.

Is continuity present?

Check for continuity from pin 22P1-22 to 8P1-A.

Is continuity present?

Repair or replace yellow wire or wire L3A18 (4) WHT.

Repair or replace wire L3B18 (4) WHT.

Check wire for continuity from pin 8J1-A to upper anticollision light terminal which has wire L3C18 (4) connected to it.

Is continuity present?

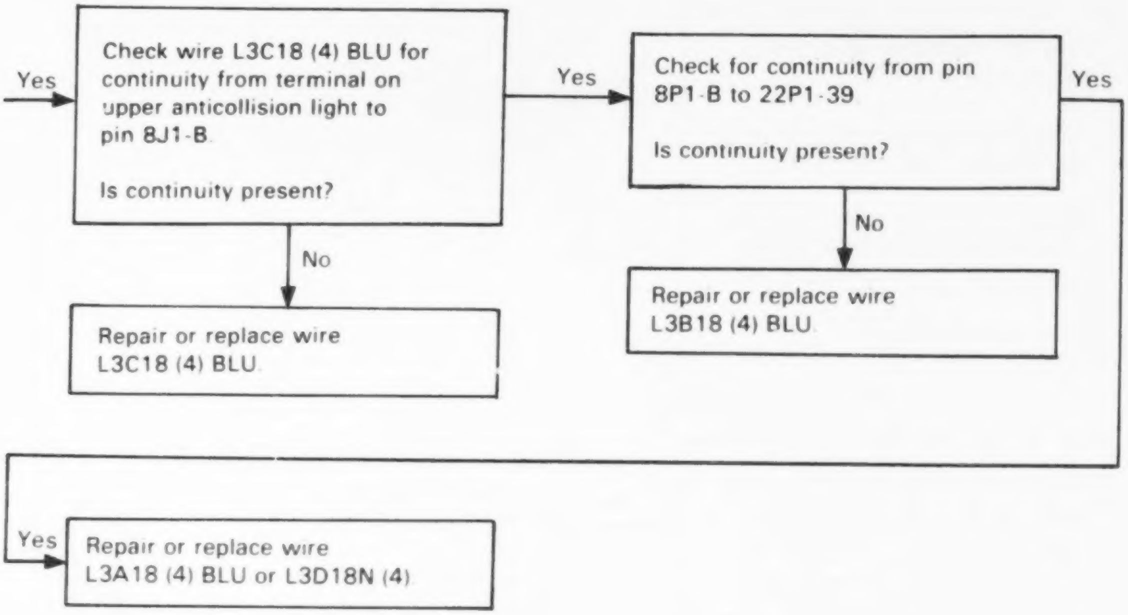
Check for continuity between terminals of upper anticollision light 8DS1.

Is continuity present?

Repair or replace wire L3C18 (4).

Replace light bulb in 8DS1 (Task 9-5-1).

191. UPPER ANTICOLLISION LIGHT DOES NOT FLASH (ANTI COLL SWITCH IN ANTI COLL) (CONT)


Yes
Yes
Yes
No
No
Yes

Check wire L3C18 (4) BLU for continuity from terminal on upper anticollision light to pin 8J1-B.

Is continuity present?

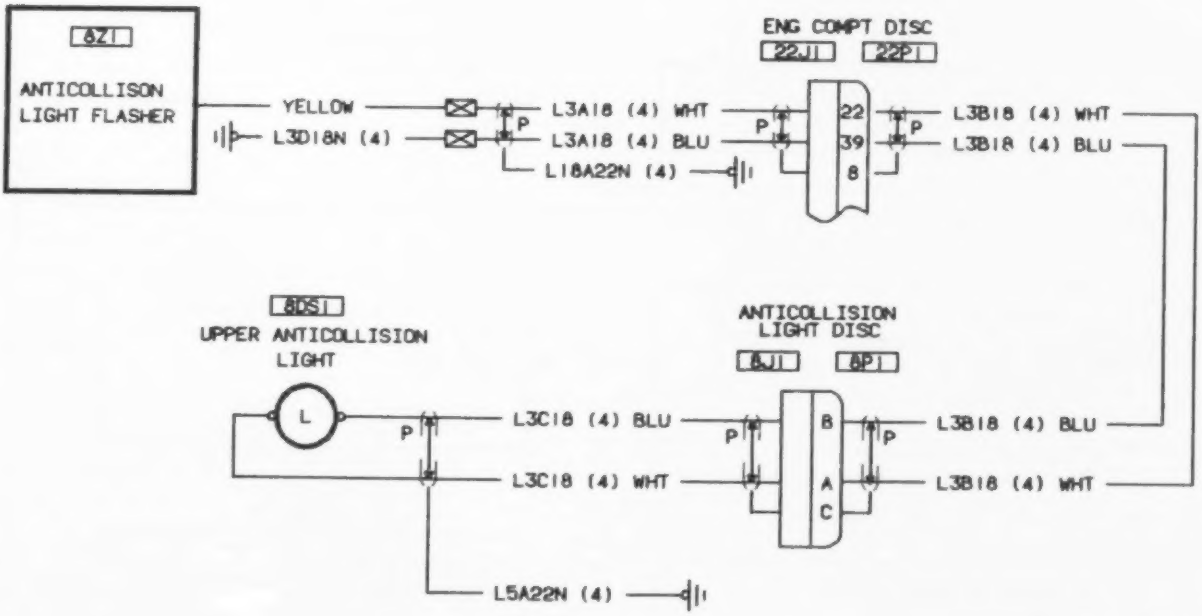
Repair or replace wire L3C18 (4) BLU.

Check for continuity from pin 8P1-B to 22P1-39.

Is continuity present?

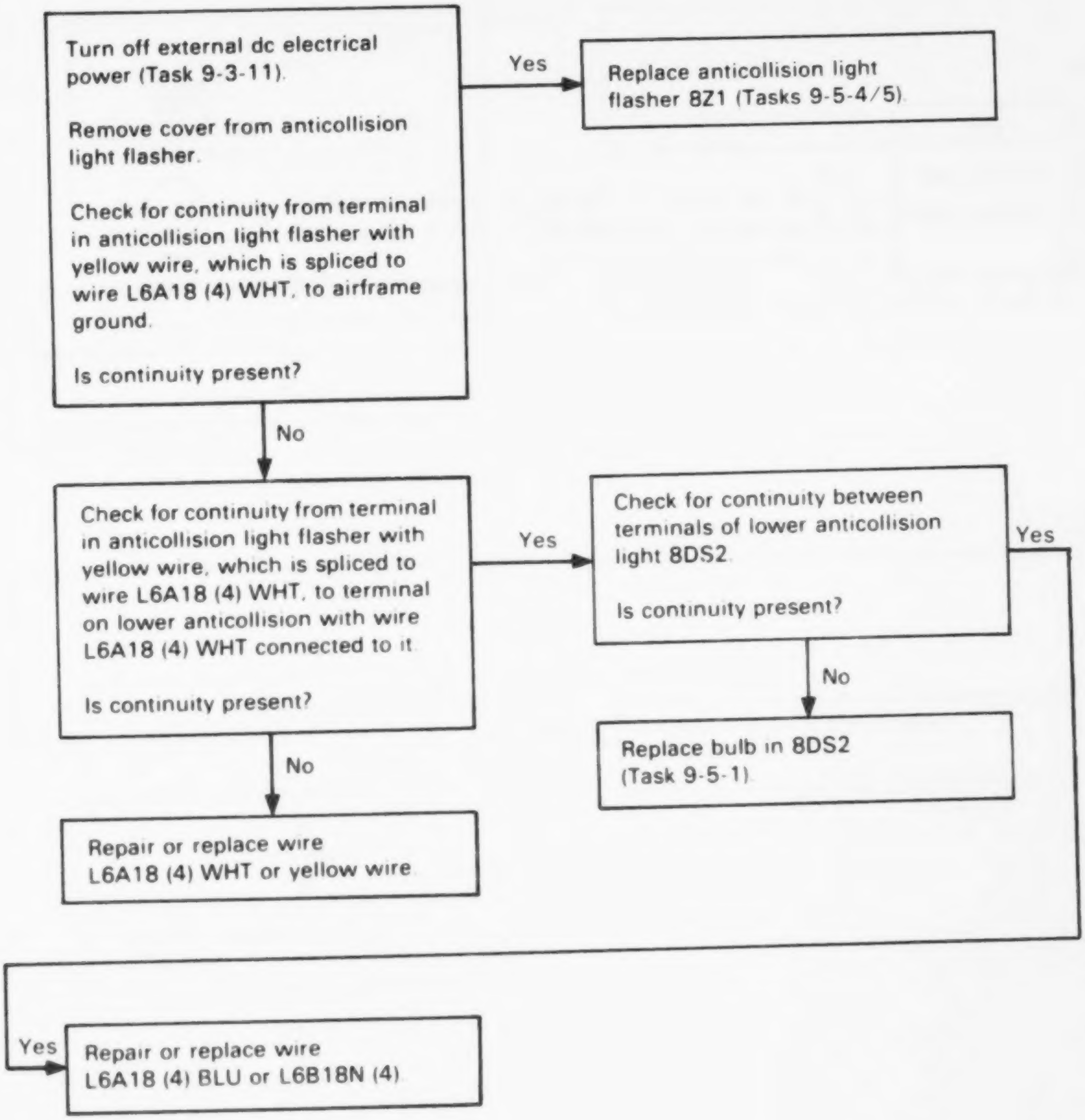
Repair or replace wire L3B18 (4) BLU.

Repair or replace wire L3A18 (4) BLU or L3D18N (4).


8Z1
ANTICOLLISON LIGHT FLASHER
YELLOW
L3D18N (4)
L3A18 (4) WHT
L3A18 (4) BLU
L18A22N (4)
P
ENG COMPT DISC
22J1
22P1
22
39
8
P
P
L3B18 (4) WHT
L3B18 (4) BLU
8DS1
UPPER ANTICOLLISION LIGHT
L
P
L3C18 (4) BLU
L3C18 (4) WHT
L5A22N (4)
ANTICOLLISION LIGHT DISC
8J1
8P1
P
B
A
C
P
L3B18 (4) BLU
L3B18 (4) WHT

406475-155A

192. LOWER ANTICOLLISION LIGHT DOES NOT FLASH (ANTI COLL SWITCH IN ANTI COLL)



Turn off external dc electrical power (Task 9-3-11).

Remove cover from anticollision light flasher.

Check for continuity from terminal in anticollision light flasher with yellow wire, which is spliced to wire L6A18 (4) WHT, to airframe ground.

Is continuity present?

Replace anticollision light flasher 8Z1 (Tasks 9-5-4/5).

Check for continuity from terminal in anticollision light flasher with yellow wire, which is spliced to wire L6A18 (4) WHT, to terminal on lower anticollision with wire L6A18 (4) WHT connected to it.

Is continuity present?

Check for continuity between terminals of lower anticollision light 8DS2.

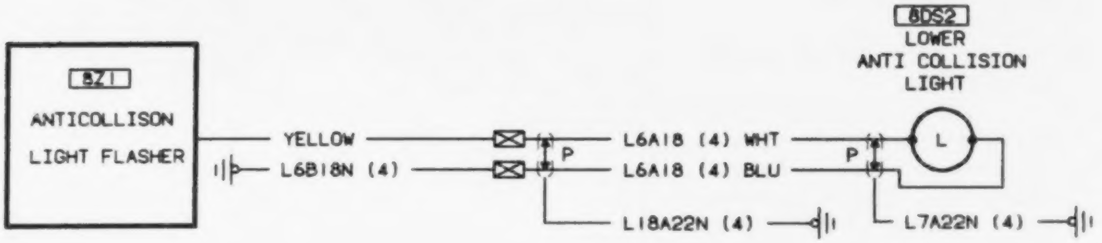
Is continuity present?

Replace bulb in 8DS2 (Task 9-5-1).

Repair or replace wire L6A18 (4) WHT or yellow wire.

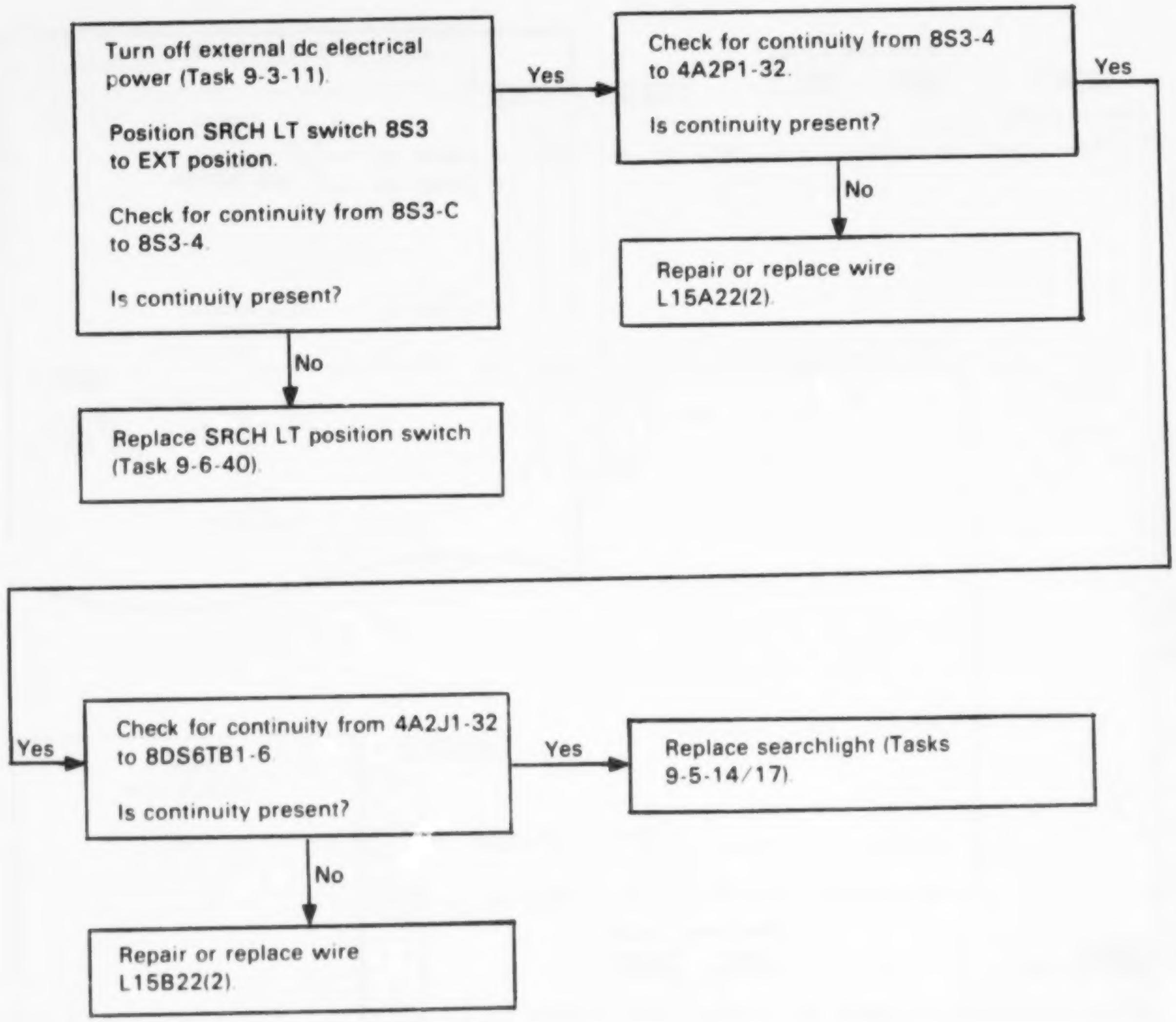
Repair or replace wire L6A18 (4) BLU or L6B18N (4).

192. LOWER ANTICOLLISION LIGHT DOES NOT FLASH (ANTI COLL SWITCH IN ANTI COLL) (CONT)

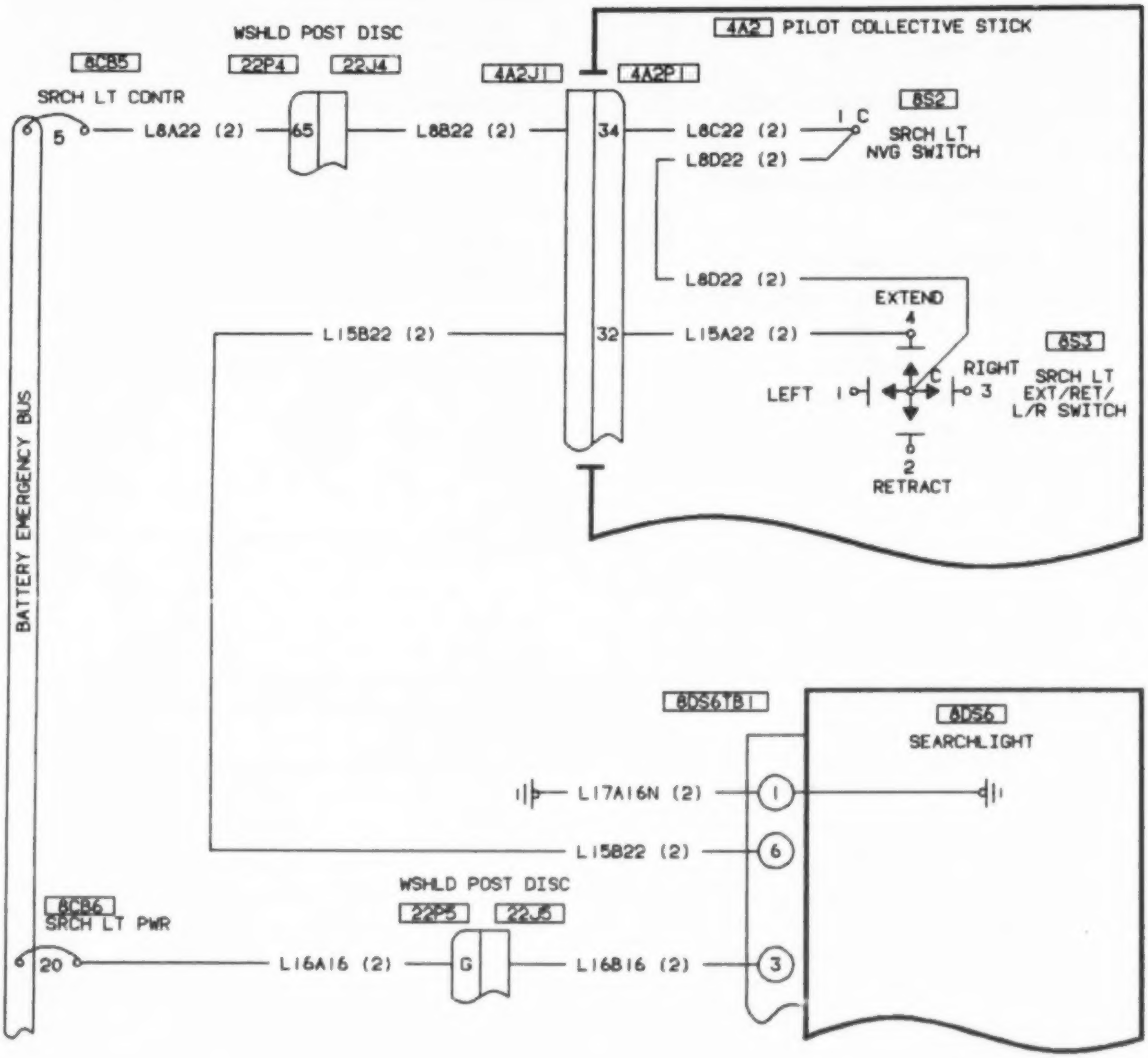

8Z1
ANTICOLLISON
LIGHT FLASHER
YELLOW
L6B18N (4)
P
L6A18 (4) WHT
L6A18 (4) BLU
L18A22N (4)
8DS2
LOWER
ANTI COLLISION
LIGHT
L
P
L7A22N (4)

406475-154A

193. SEARCHLIGHT WILL NOT EXTEND (SEARCHLIGHT POSITION SWITCH HELD IN EXT POSITION)


Turn off external dc electrical power (Task 9-3-11).
Position SRCH LT switch 8S3 to EXT position.
Check for continuity from 8S3-C to 8S3-4.
Is continuity present?
Yes
Check for continuity from 8S3-4 to 4A2P1-32.
Is continuity present?
Yes
No
Repair or replace wire L15A22(2).
No
Replace SRCH LT position switch (Task 9-6-40).
Yes
Check for continuity from 4A2J1-32 to 8DS6TB1-6.
Is continuity present?
Yes
Replace searchlight (Tasks 9-5-14/17).
No
Repair or replace wire L15B22(2).

193. SEARCHLIGHT WILL NOT EXTEND (SEARCHLIGHT POSITION SWITCH HELD IN EXT POSITION) (CONT)

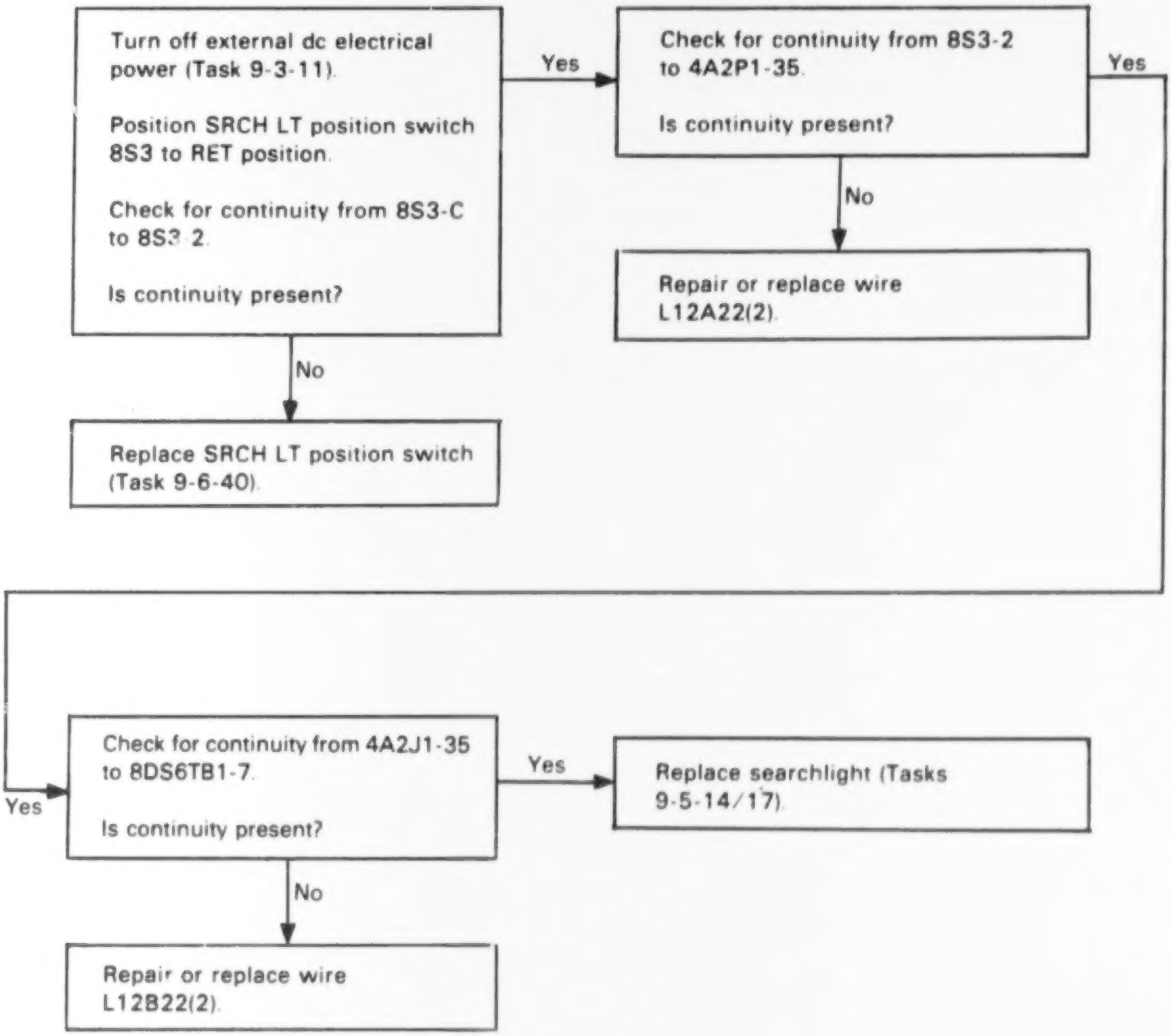

4A2 PILOT COLLECTIVE STICK
WSHLD POST DISC
8CB5
SRCH LT CONTR
22P4
22J4
4A2J1
4A2P1
5
L8A22 (2)
65
L8B22 (2)
34
L8C22 (2)
L8D22 (2)
1 C
8S2
SRCH LT
NVG SWITCH
L8D22 (2)
EXTEND
4
L15B22 (2)
32
L15A22 (2)
8S3
RIGHT
3
C
LEFT
1
SRCH LT
EXT/RET/
L/R SWITCH
2
RETRACT
BATTERY EMERGENCY BUS
8DS6TB1
8DS6
SEARCHLIGHT
L17A16N (2)
1
L15B22 (2)
6
WSHLD POST DISC
8CB6
SRCH LT PWR
22P5
22J5
20
L16A16 (2)
G
L16B16 (2)
3

406475-1568

194. SEARCHLIGHT DOES NOT EXTEND TO 120 DEGREES

Adjust the extend limit switch.

195. SEARCHLIGHT WILL NOT RETRACT (SEARCHLIGHT POSITION SWITCH HELD IN RET POSITION)



Turn off external dc electrical power (Task 9-3-11).

Position SRCH LT position switch 8S3 to RET position.

Check for continuity from 8S3-C to 8S3-2.

Is continuity present?

Check for continuity from 8S3-2 to 4A2P1-35.

Is continuity present?

Repair or replace wire L12A22(2).

Replace SRCH LT position switch (Task 9-6-40).

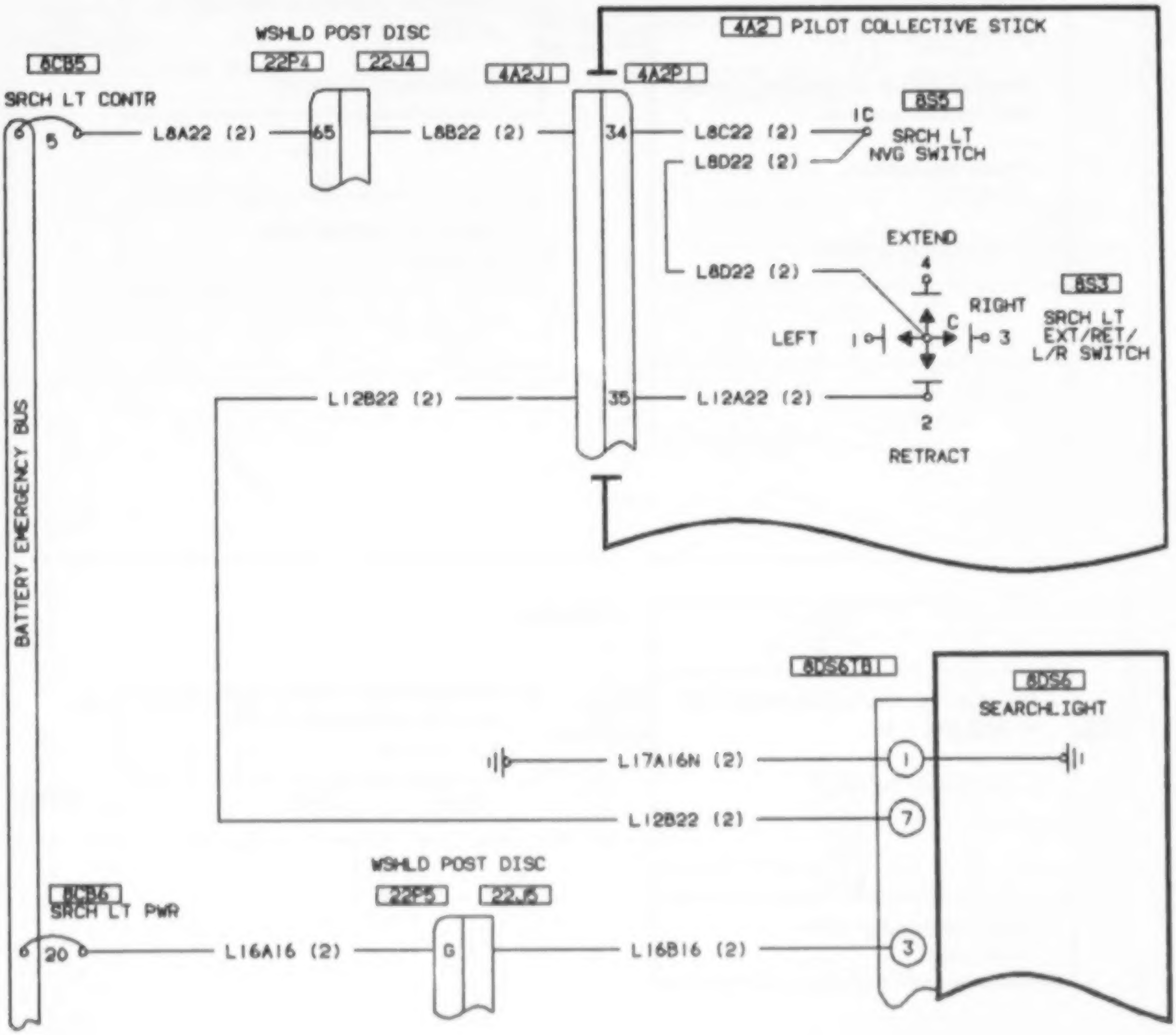
Check for continuity from 4A2J1-35 to 8DS6TB1-7.

Is continuity present?

Replace searchlight (Tasks 9-5-14/17).

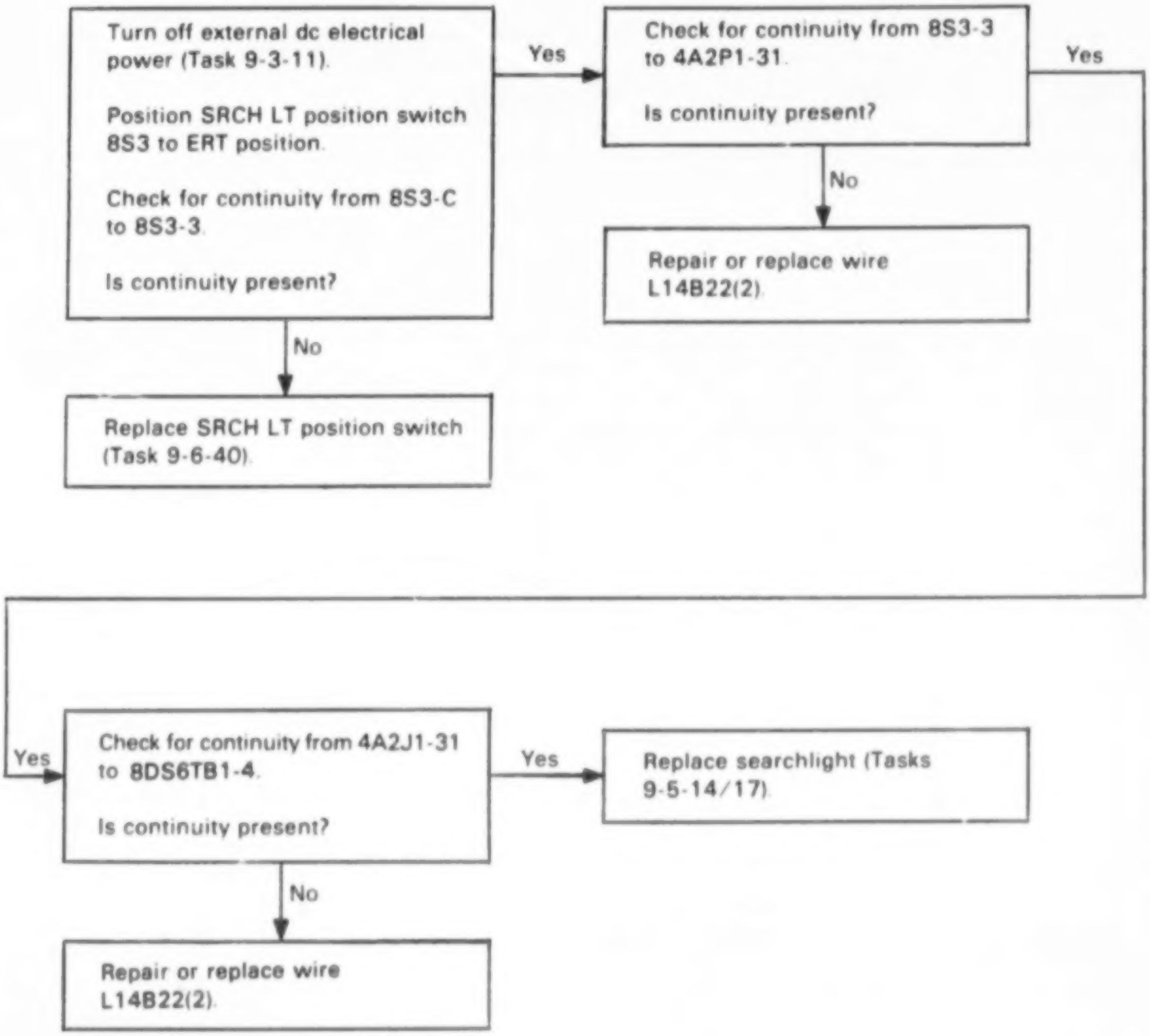
Repair or replace wire L12B22(2).

195. SEARCHLIGHT WILL NOT RETRACT (SEARCHLIGHT POSITION SWITCH HELD IN RET POSITION) (CONT)


8CB5
SRCH LT CONTR
5
L8A22 (2)
WSHLD POST DISC
22P4
22J4
65
L8B22 (2)
4A2J1
4A2P1
34
4A2 PILOT COLLECTIVE STICK
L8C22 (2)
1C
8S5
SRCH LT NVG SWITCH
L8D22 (2)
L8D22 (2)
EXTEND
4
8S3
RIGHT
C
SRCH LT EXT/RET/ L/R SWITCH
LEFT
1
3
L12B22 (2)
35
L12A22 (2)
2
RETRACT
BATTERY EMERGENCY BUS
8DS6TB1
8DS6
SEARCHLIGHT
L17A16N (2)
1
L12B22 (2)
7
WSHLD POST DISC
8CB6
SRCH LT PWR
22P5
22J5
20
L16A16 (2)
G
L16B16 (2)
3

406475-163A

196. SEARCHLIGHT WILL NOT TURN RIGHT (SEARCHLIGHT POSITION SWITCH HELD IN R POSITION)


Turn off external dc electrical power (Task 9-3-11).

Position SRCH LT position switch 8S3 to ERT position.

Check for continuity from 8S3-C to 8S3-3.

Is continuity present?

Replace SRCH LT position switch (Task 9-6-40).

Check for continuity from 8S3-3 to 4A2P1-31.

Is continuity present?

Repair or replace wire L14B22(2).

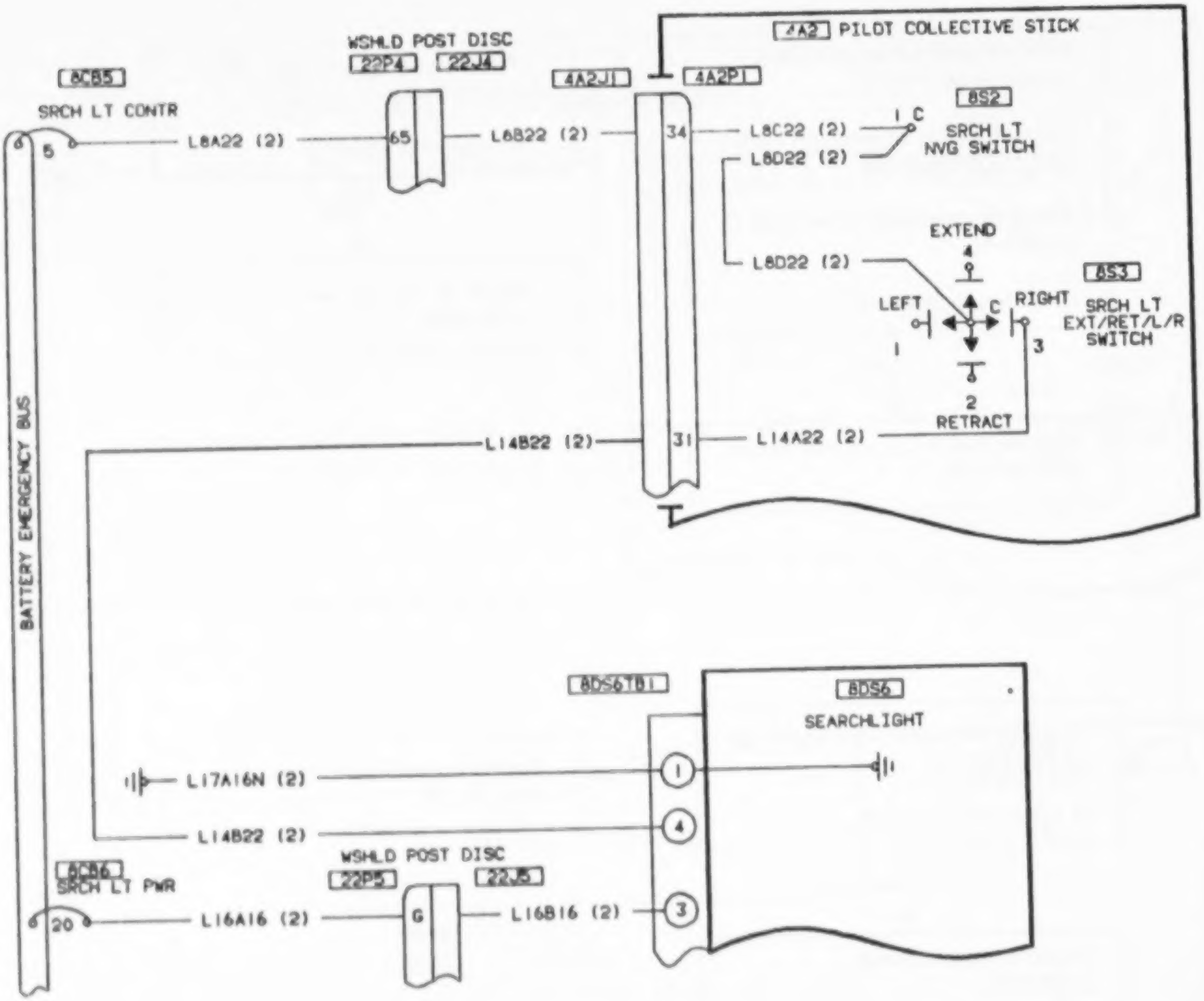
Check for continuity from 4A2J1-31 to 8DS6TB1-4.

Is continuity present?

Replace searchlight (Tasks 9-5-14/17).

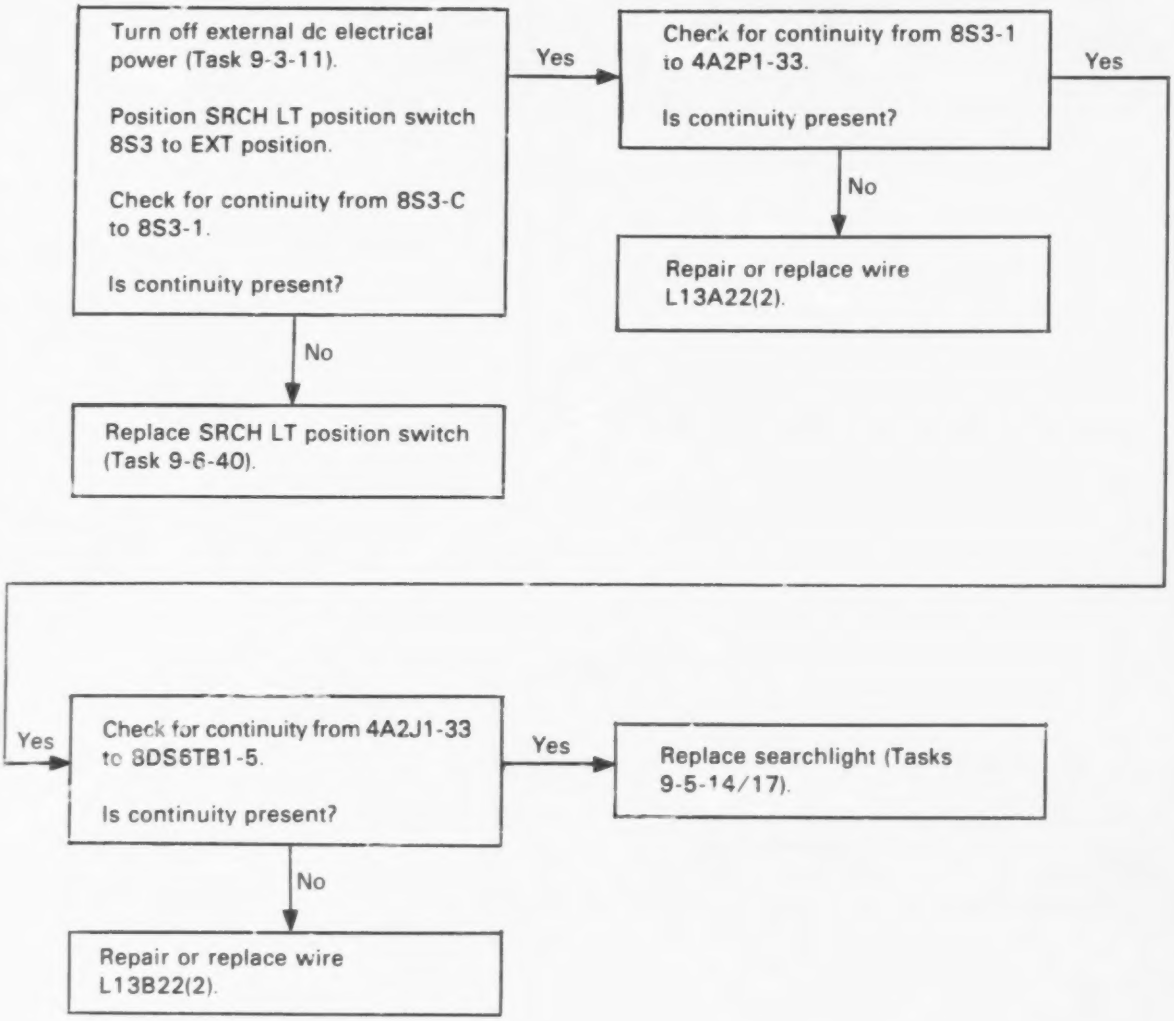
Repair or replace wire L14B22(2).

196. SEARCHLIGHT WILL NOT TURN RIGHT (SEARCHLIGHT POSITION SWITCH HELD IN R POSITION) (CONT)


4A2 PILOT COLLECTIVE STICK
WSHLD POST DISC
22P4
22J4
8CB5
SRCH LT CONTR
4A2J1
4A2P1
5
L8A22 (2)
65
L8B22 (2)
34
L8C22 (2)
1 C
8S2
SRCH LT NVG SWITCH
L8D22 (2)
EXTEND
4
L8D22 (2)
8S3
LEFT
C
RIGHT
SRCH LT EXT/RET/L/R SWITCH
1
3
2
RETRACT
BATTERY EMERGENCY BUS
L14B22 (2)
31
L14A22 (2)
8DS6TB1
8DS6
SEARCHLIGHT
L17A16N (2)
1
L14B22 (2)
4
WSHLD POST DISC
8CB6
SRCH LT PWR
22P5
22J5
20
L16A16 (2)
G
L16B16 (2)
3

406475-164B

197. SEARCHLIGHT WILL NOT TURN LEFT (SEARCHLIGHT POSITION SWITCH HELD IN L POSITION)



Turn off external dc electrical power (Task 9-3-11).

Position SRCH LT position switch 8S3 to EXT position.

Check for continuity from 8S3-C to 8S3-1.

Is continuity present?

Replace SRCH LT position switch (Task 9-6-40).

Check for continuity from 8S3-1 to 4A2P1-33.

Is continuity present?

Repair or replace wire L13A22(2).

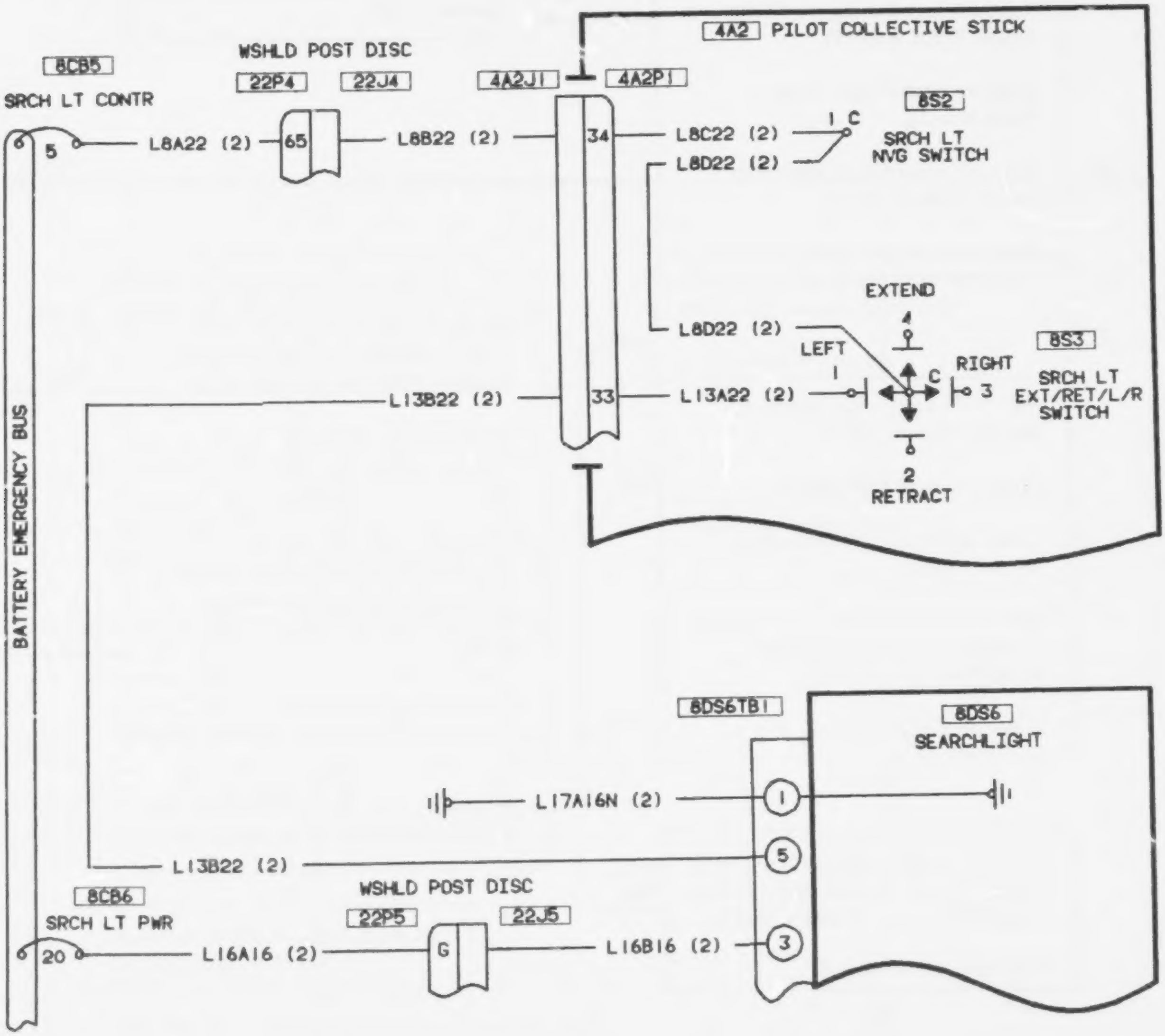
Check for continuity from 4A2J1-33 to 8DS6TB1-5.

Is continuity present?

Replace searchlight (Tasks 9-5-14/17).

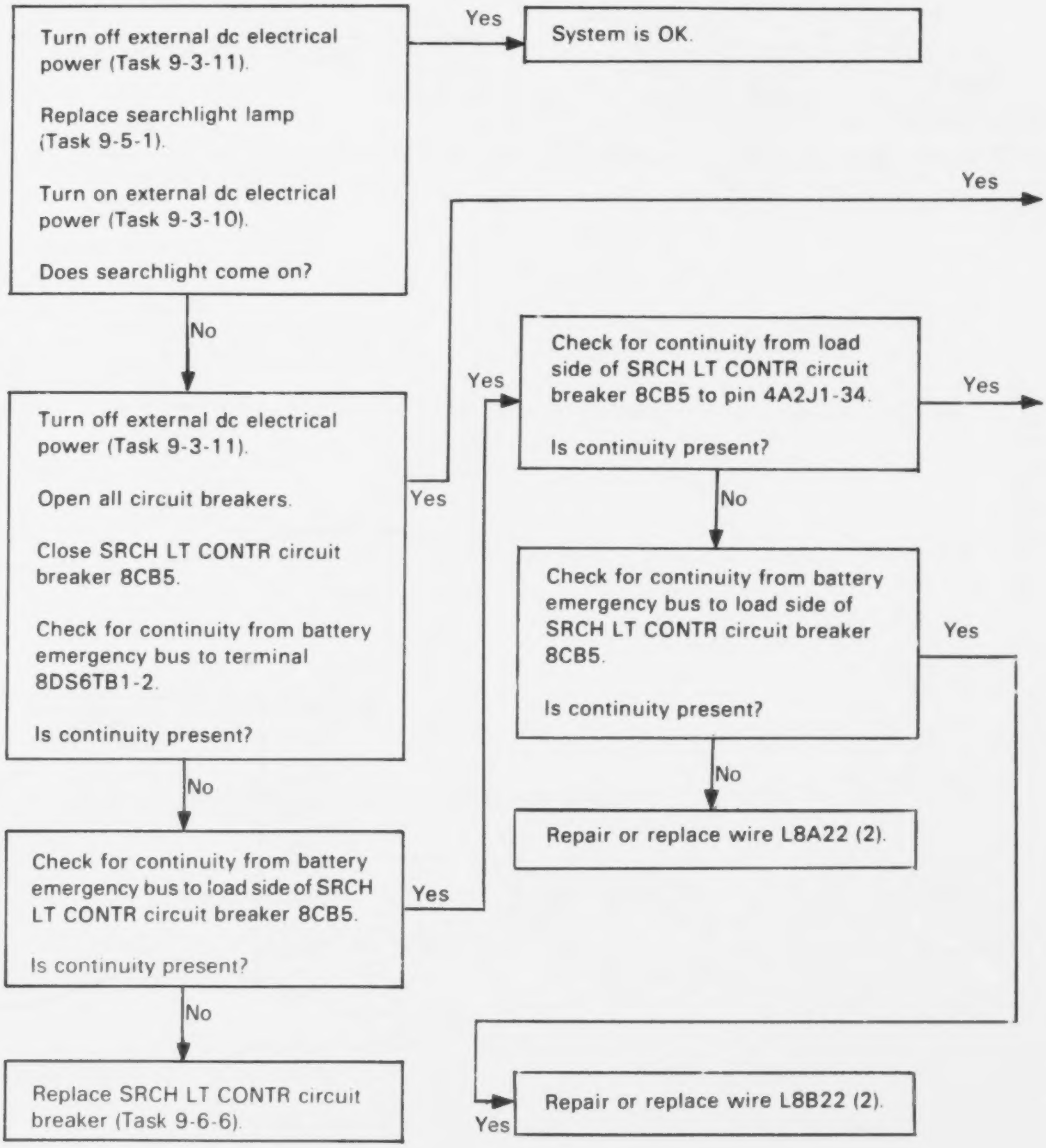
Repair or replace wire L13B22(2).

197 SEARCHLIGHT WILL NOT TURN LEFT (SEARCHLIGHT POSITION SWITCH HELD IN L POSITION) (CONT)

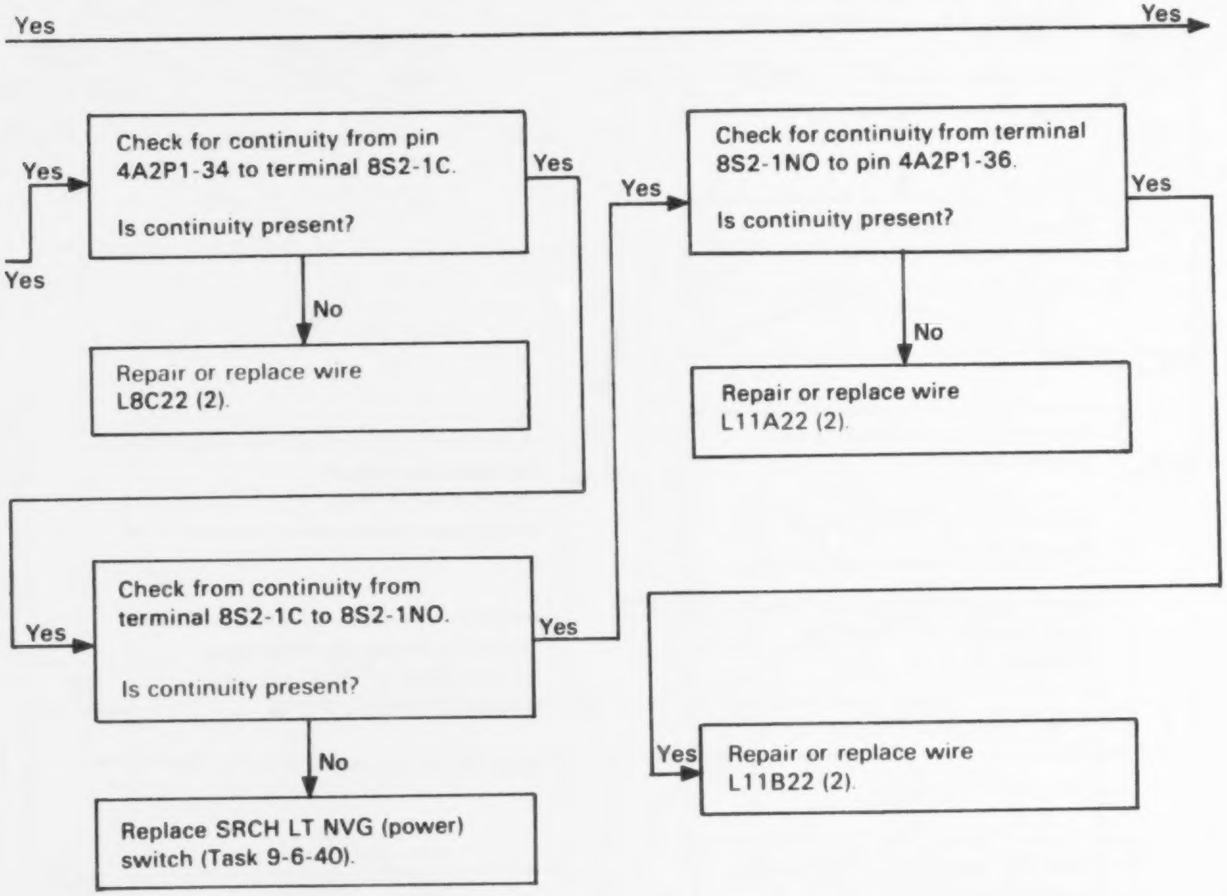

4A2 PILOT COLLECTIVE STICK
8CB5
SRCH LT CONTR
WSHLD POST DISC
22P4
22J4
4A2J1
4A2P1
5
L8A22 (2)
65
L8B22 (2)
34
L8C22 (2)
L8D22 (2)
1 C
8S2
SRCH LT NVG SWITCH
EXTEND
4
L8D22 (2)
LEFT
1
C
RIGHT
3
8S3
SRCH LT EXT/RET/L/R SWITCH
L13B22 (2)
33
L13A22 (2)
2
RETRACT
BATTERY EMERGENCY BUS
8DS6TB1
8DS6
SEARCHLIGHT
L17A16N (2)
1
L13B22 (2)
5
8CB6
SRCH LT PWR
WSHLD POST DISC
22P5
22J5
20
L16A16 (2)
G
L16B16 (2)
3

406475-165B

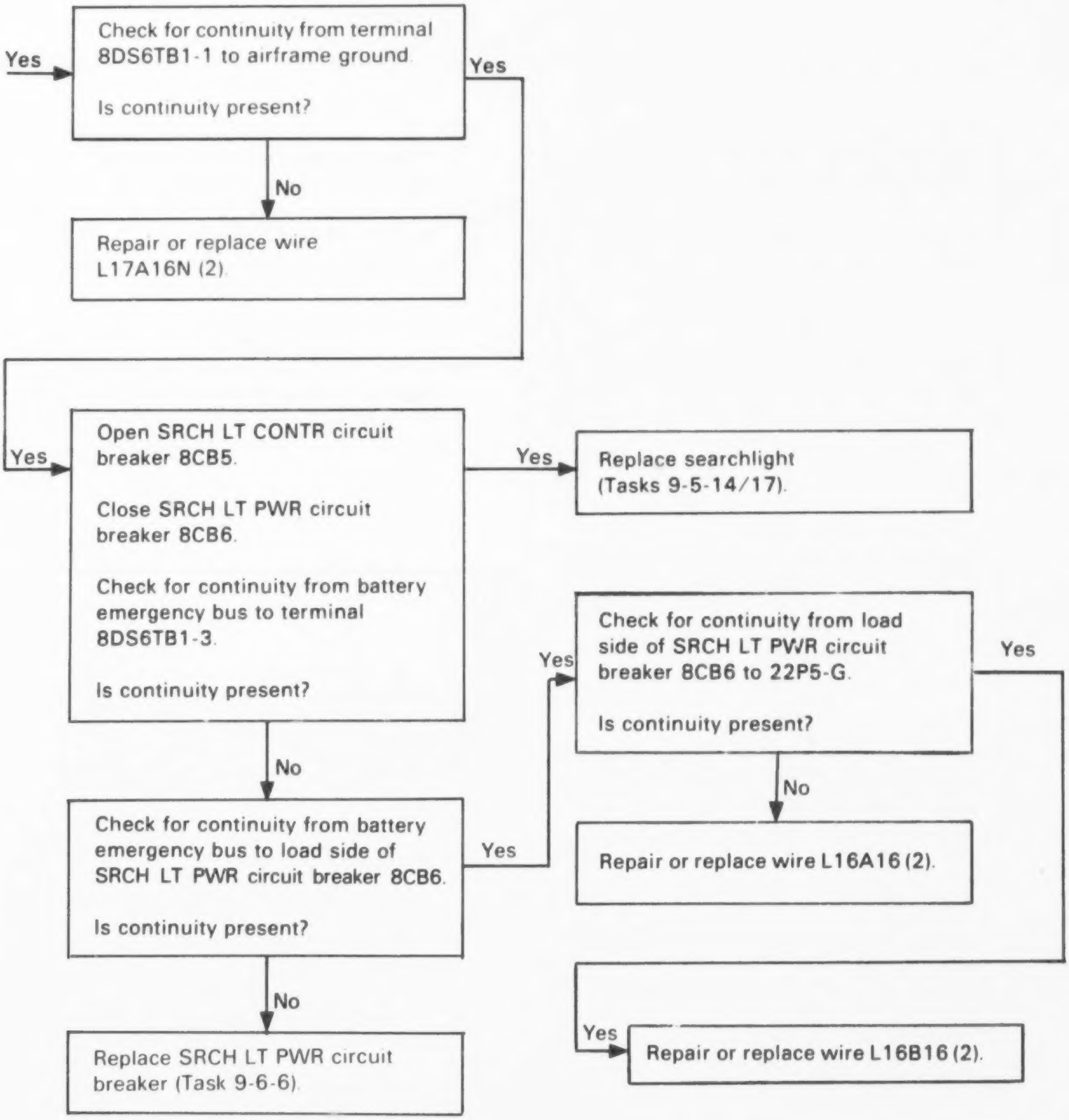
198. SEARCHIGHT DOES NOT COME ON (SEARCHLIGHT POWER SWITCH IS ON)


Turn off external dc electrical power (Task 9-3-11). Replace searchlight lamp (Task 9-5-1). Turn on external dc electrical power (Task 9-3-10). Does searchlight come on?
Yes
System is OK.
No
Turn off external dc electrical power (Task 9-3-11). Open all circuit breakers. Close SRCH LT CONTR circuit breaker 8CB5. Check for continuity from battery emergency bus to terminal 8DS6TB1-2. Is continuity present?
Yes
Yes
No
Check for continuity from battery emergency bus to load side of SRCH LT CONTR circuit breaker 8CB5. Is continuity present?
Yes
No
Replace SRCH LT CONTR circuit breaker (Task 9-6-6).
Yes
Check for continuity from load side of SRCH LT CONTR circuit breaker 8CB5 to pin 4A2J1-34. Is continuity present?
Yes
No
Check for continuity from battery emergency bus to load side of SRCH LT CONTR circuit breaker 8CB5. Is continuity present?
Yes
No
Repair or replace wire L8A22 (2).
Yes
Repair or replace wire L8B22 (2).

198. SEARCHIGHT DOES NOT COME ON (SEARCHLIGHT POWER SWITCH IS ON) (CONT)


Yes
Yes
Yes
Yes
Check for continuity from pin 4A2P1-34 to terminal 8S2-1C.
Is continuity present?
Yes
No
Repair or replace wire L8C22 (2).
Yes
Check for continuity from terminal 8S2-1NO to pin 4A2P1-36.
Is continuity present?
Yes
No
Repair or replace wire L11A22 (2).
Yes
Check from continuity from terminal 8S2-1C to 8S2-1NO.
Is continuity present?
Yes
No
Replace SRCH LT NVG (power) switch (Task 9-6-40).
Yes
Repair or replace wire L11B22 (2).

198. SEARCHIGHT DOES NOT COME ON (SEARCHLIGHT POWER SWITCH IS ON) (CONT)



Check for continuity from terminal 8DS6TB1-1 to airframe ground.

Is continuity present?

Repair or replace wire L17A16N (2).

Open SRCH LT CONTR circuit breaker 8CB5.

Close SRCH LT PWR circuit breaker 8CB6.

Check for continuity from battery emergency bus to terminal 8DS6TB1-3.

Is continuity present?

Replace searchlight (Tasks 9-5-14/17).

Check for continuity from load side of SRCH LT PWR circuit breaker 8CB6 to 22P5-G.

Is continuity present?

Repair or replace wire L16A16 (2).

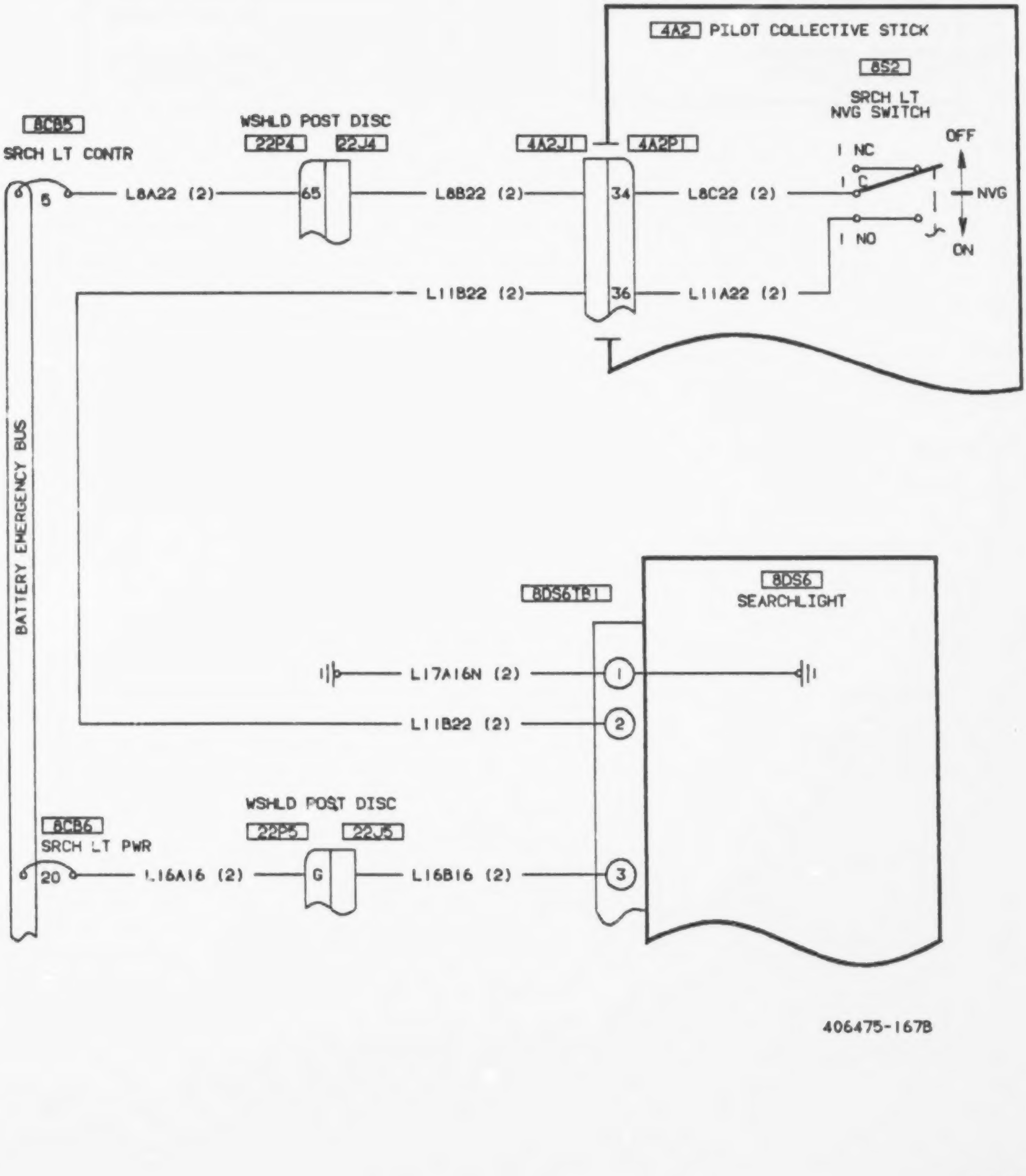
Check for continuity from battery emergency bus to load side of SRCH LT PWR circuit breaker 8CB6.

Is continuity present?

Replace SRCH LT PWR circuit breaker (Task 9-6-6).

Repair or replace wire L16B16 (2).

198. SEARCHIGHT DOES NOT COME ON (SEARCHLIGHT POWER SWITCH IS ON) (CONT)


4A2 PILOT COLLECTIVE STICK
8S2
SRCH LT NVG SWITCH
OFF
NVG
ON
NC
C
NO
8CB5
SRCH LT CONTR
5
L8A22 (2)
WSHLD POST DISC
22P4
22J4
65
L8B22 (2)
4A2J1
4A2P1
34
L8C22 (2)
L11B22 (2)
36
L11A22 (2)
BATTERY EMERGENCY BUS
8DS6TB1
8DS6
SEARCHLIGHT
L17A16N (2)
1
L11B22 (2)
2
8CB6
SRCH LT PWR
20
L16A16 (2)
WSHLD POST DISC
22P5
22J5
G
L16B16 (2)
3
406475-167B

199. SEARCHLIGHT DOES NOT GO OFF AT APPROXIMATELY 90 DEGREES RIGHT FROM FORWARD (SEARCHLIGHT POWER SWITCH IS ON, SEARCHLIGHT POSITION SWITCH HELD IN R)

Turn off external dc electrical power (Task 9-3-11).

Replace searchlight (Tasks 9-5-14/17).

200. SEARCHLIGHT DOES NOT GO OFF AT APPROXIMATELY 90 DEGREES LEFT FROM FORWARD (SEARCHLIGHT POWER SWITCH IS ON, SEARCHLIGHT POSITION SWITCH HELD IN L)

Turn off external dc electrical power (Task 9-3-11).

Replace searchlight (Tasks 9-5-14/17).

201. SEARCHLIGHT DOES NOT COME ON AT APPROXIMATELY 60 DEGREES EXTENSION (SEARCHLIGHT POWER SWITCH IS ON, SEARCHLIGHT POSITION SWITCH HELD IN EXT)

Turn off external dc electrical power (Task 9-3-11).

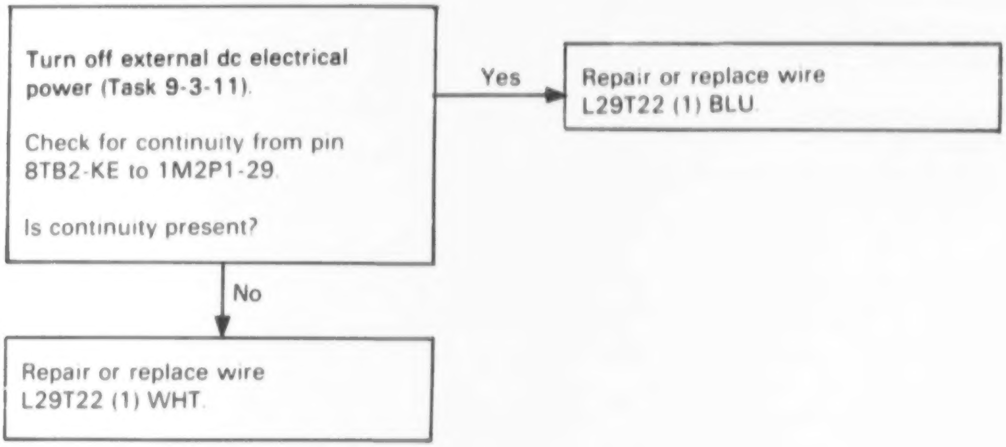
Replace searchlight (Tasks 9-5-14/17).

202. SEARCHLIGHT DOES NOT STOW PROPERLY (SEARCHLIGHT POSITION SWITCH HELD IN RET)

Turn off external dc electrical power (Task 9-3-11).

Replace searchlight (Tasks 9-5-14/17).

203. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL DUAL TACHOMETER



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KE to 1M2P1-29.

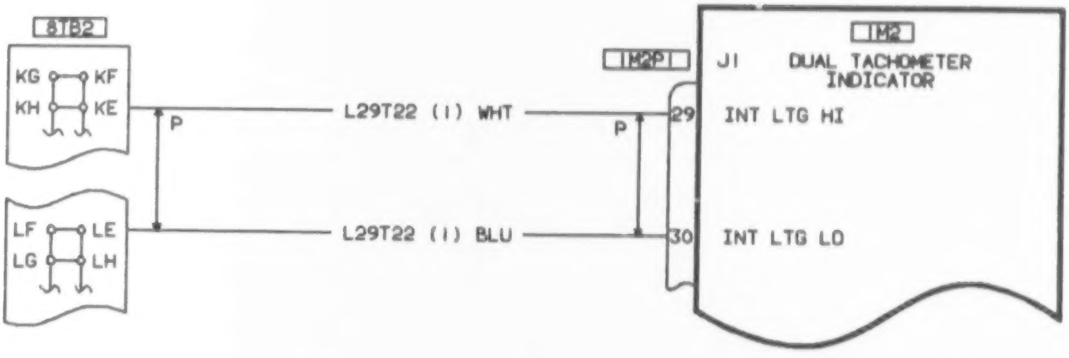
Is continuity present?

Yes

Repair or replace wire L29T22 (1) BLU.

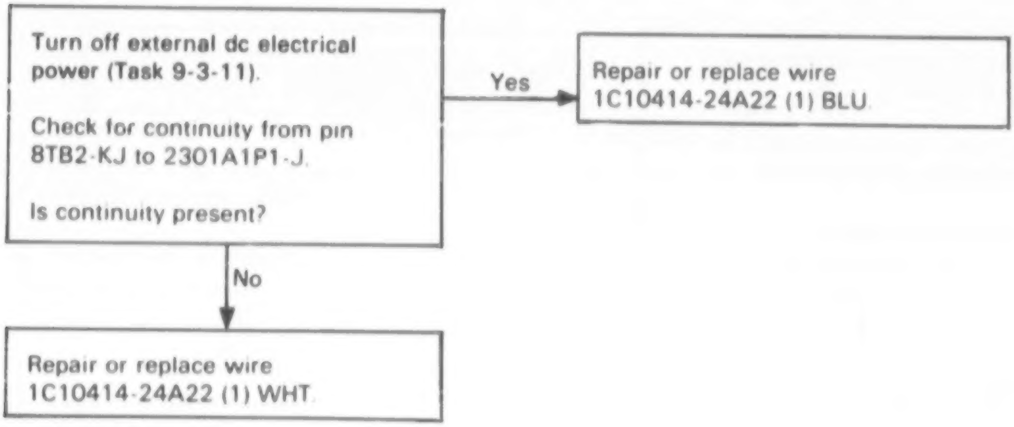
No

Repair or replace wire L29T22 (1) WHT.


8TB2
KG
KF
KH
KE
LF
LE
LG
LH
P
L29T22 (1) WHT
L29T22 (1) BLU
P
1M2P1
29
30
1M2
J1
DUAL TACHOMETER INDICATOR
INT LTG HI
INT LTG LO

406475-137A

204. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL CPO COMMUNICATION SYSTEM CONTROL

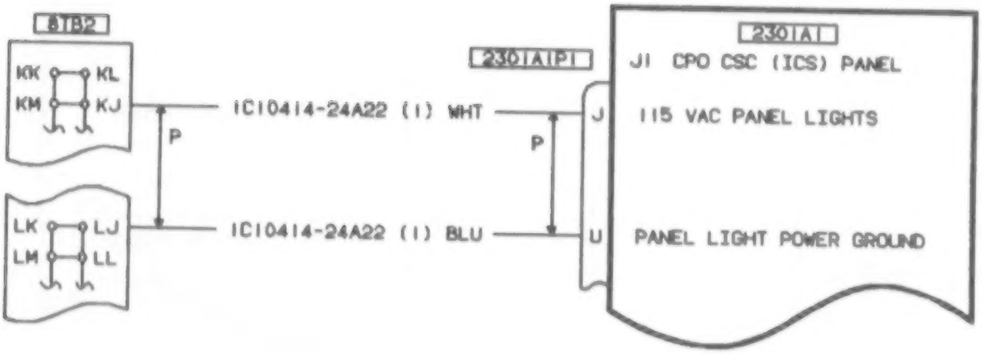

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KJ to 2301A1P1-J.

Is continuity present?

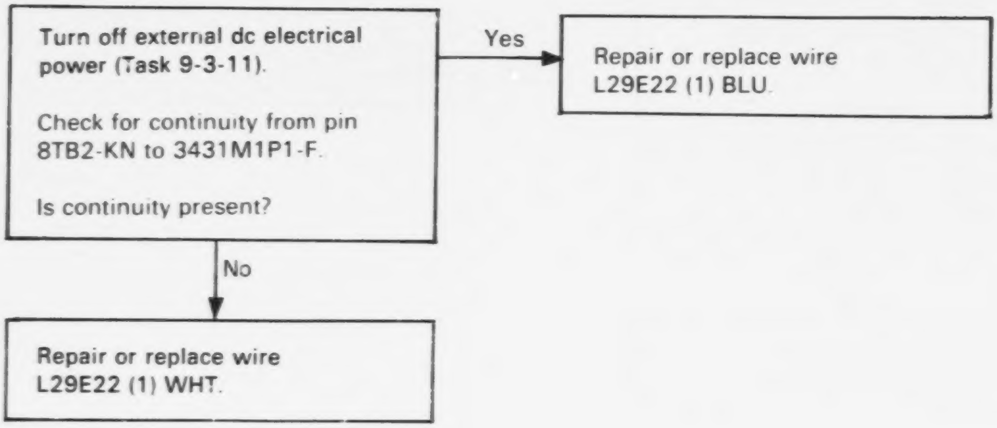
Repair or replace wire 1C10414-24A22 (1) BLU.

Repair or replace wire 1C10414-24A22 (1) WHT.


8TB2
KK
KL
KM
KJ
P
LK
LJ
LM
LL
1C10414-24A22 (1) WHT
1C10414-24A22 (1) BLU
2301A1P1
P
2301A1
J1 CPO CSC (ICS) PANEL
J
115 VAC PANEL LIGHTS
U
PANEL LIGHT POWER GROUND

406475-146A

205. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL LEFT MULTIFUNCTION DISPLAY (MFD)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KN to 3431M1P1-F.

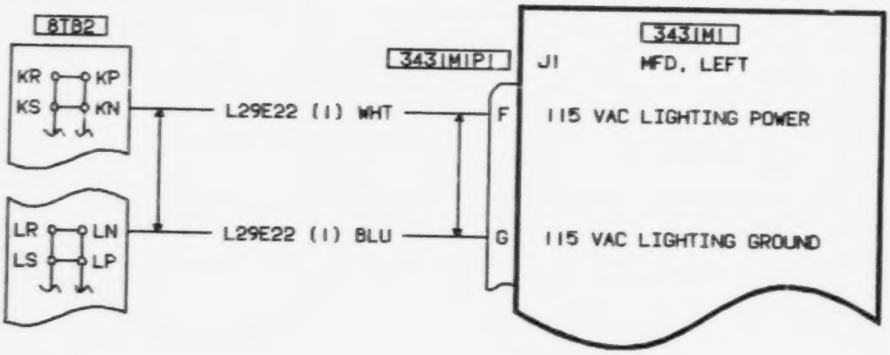
Is continuity present?

Yes

Repair or replace wire L29E22 (1) BLU.

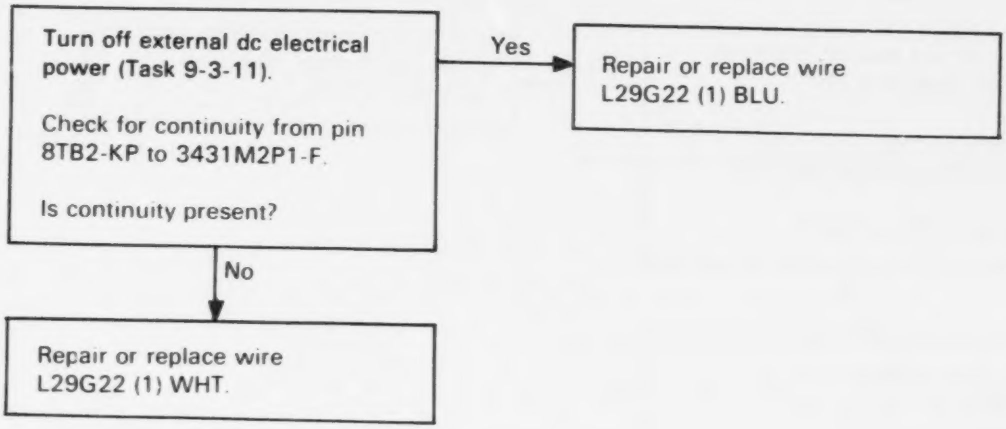
No

Repair or replace wire L29E22 (1) WHT.


8TB2
KR
KP
KS
KN
LR
LN
LS
LP
L29E22 (1) WHT
L29E22 (1) BLU
3431M1P1
3431M1
J1
MFD, LEFT
F
115 VAC LIGHTING POWER
G
115 VAC LIGHTING GROUND

406475-135A

206. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL RIGHT MULTIFUNCTION DISPLAY (MFD)



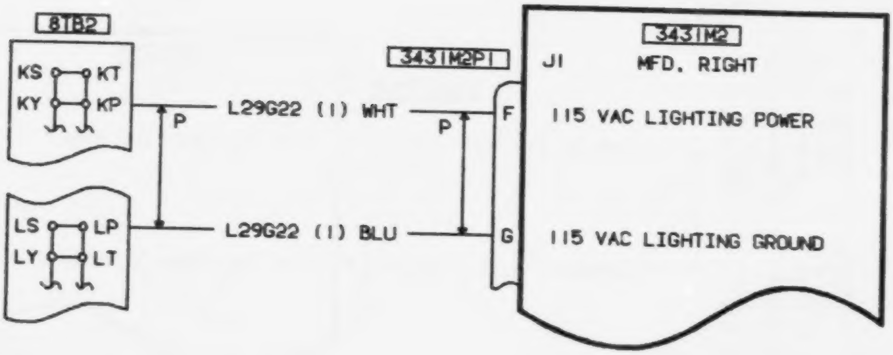
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KP to 3431M2P1-F.

Is continuity present?

Yes: Repair or replace wire L29G22 (1) BLU.

No: Repair or replace wire L29G22 (1) WHT.


8TB2
KS
KT
KY
KP
LS
LP
LY
LT
P
L29G22 (1) WHT
L29G22 (1) BLU
P
3431M2P1
F
G
3431M2
J1
MFD, RIGHT
115 VAC LIGHTING POWER
115 VAC LIGHTING GROUND

406475-134A

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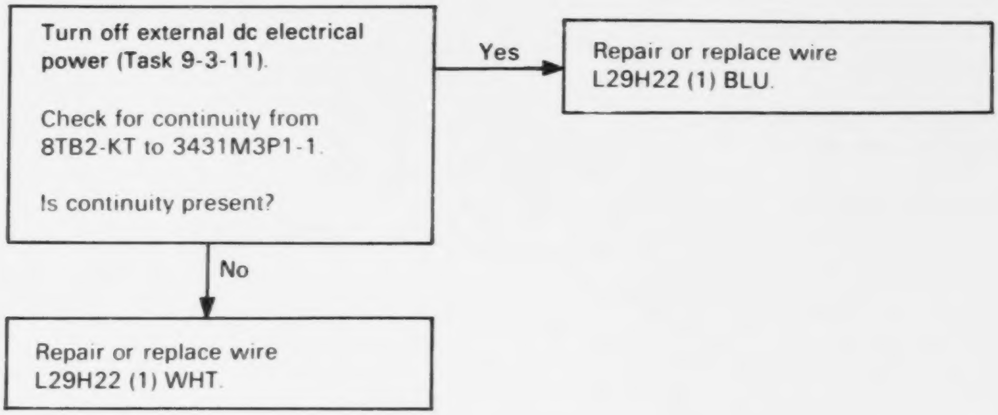
207. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL REMOTE FREQUENCY DISPLAY (RFD)



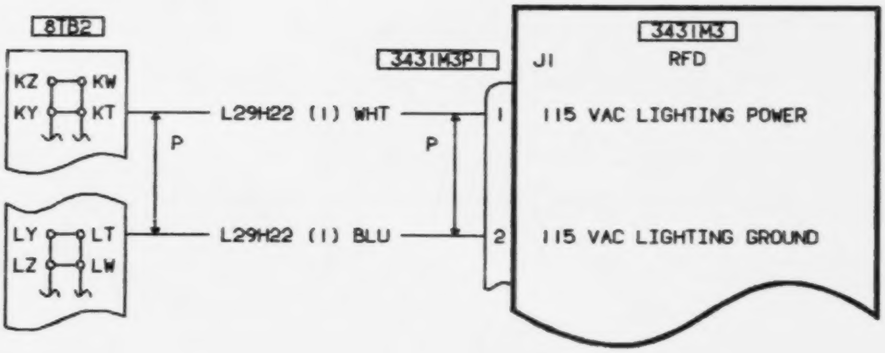
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 8TB2-KT to 3431M3P1-1.

Is continuity present?

Yes: Repair or replace wire L29H22 (1) BLU.

No: Repair or replace wire L29H22 (1) WHT.


8TB2
KZ
KW
KY
KT
LY
LT
LZ
LW
P
L29H22 (1) WHT
L29H22 (1) BLU
P
3431M3P1
J1
3431M3
RFD
1
2
115 VAC LIGHTING POWER
115 VAC LIGHTING GROUND

406475-136A

208. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL THE CPO CHANNEL SELECT PANEL

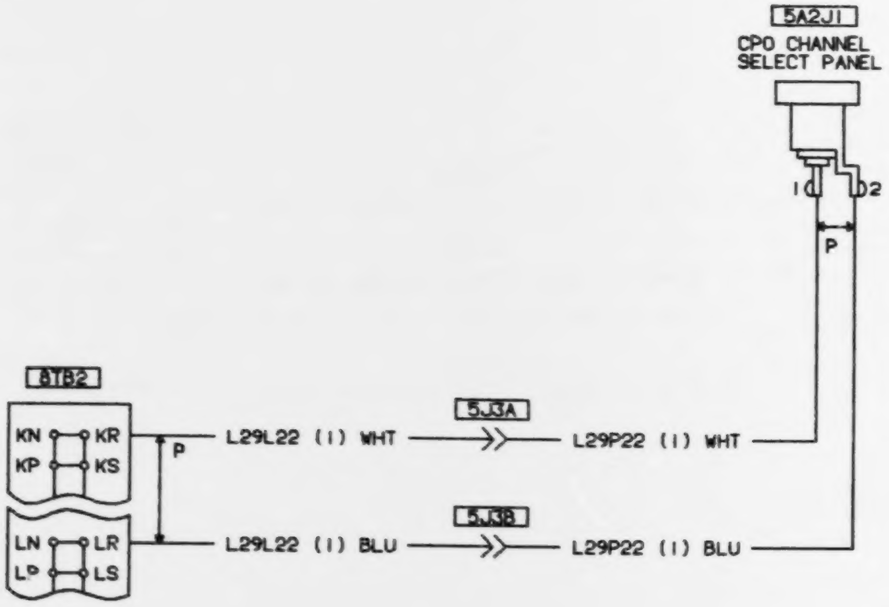
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KR to 5A2J1-1.

Is continuity present?

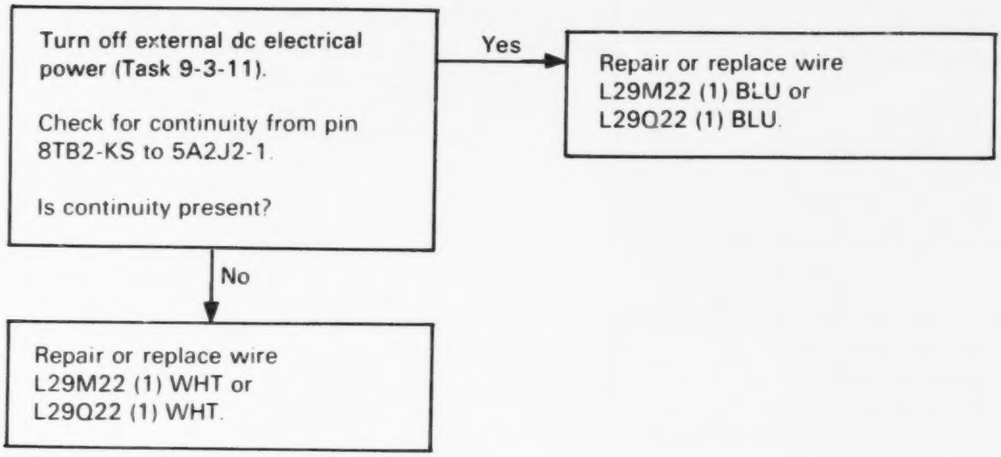
Yes: Repair or replace wire L29L22 (1) BLU or L29P22 (1) BLU.

No: Repair or replace wire L29L22 (1) WHT or L29P22 (1) WHT.


5A2J1
CPO CHANNEL SELECT PANEL
1
2
P
8TB2
KN
KR
KP
KS
LN
LR
LP
LS
P
5J3A
L29L22 (1) WHT
L29P22 (1) WHT
5J3B
L29L22 (1) BLU
L29P22 (1) BLU

406475-130A

209. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL THE CPO MULTIFUNCTION DISPLAY (MFD) AUXILIARY SWITCH PANEL



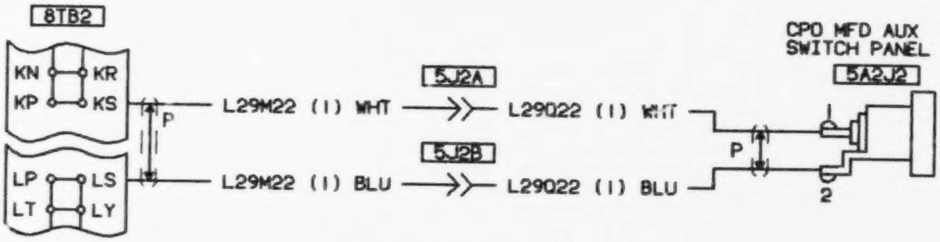
Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KS to 5A2J2-1.

Is continuity present?

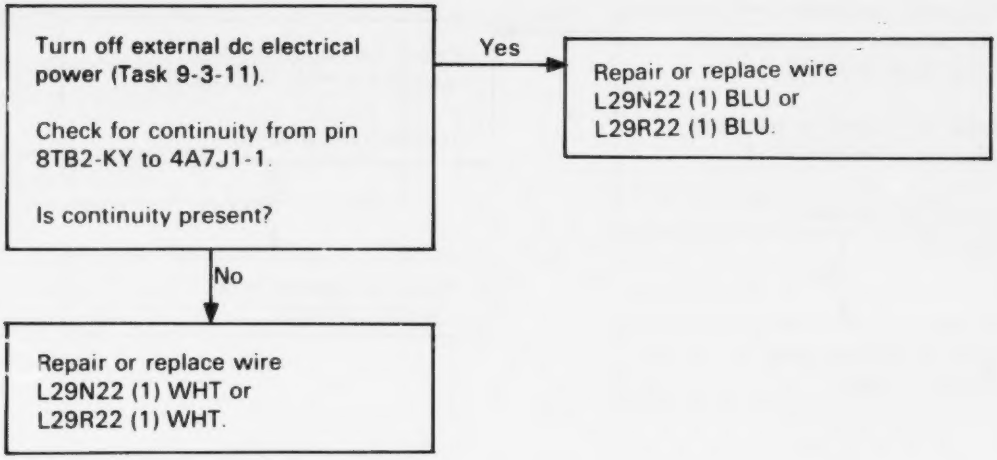
Yes: Repair or replace wire L29M22 (1) BLU or L29Q22 (1) BLU.

No: Repair or replace wire L29M22 (1) WHT or L29Q22 (1) WHT.


8TB2
KN
KR
KP
KS
LP
LS
LT
LY
P
L29M22 (1) WHT
L29M22 (1) BLU
5J2A
5J2B
L29Q22 (1) WHT
L29Q22 (1) BLU
P
CPO MFD AUX
SWITCH PANEL
5A2J2
1
2

406475-150A

210. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL THE PILOT MULTIFUNCTION DISPLAY (MFD) AUXILIARY SWITCH PANEL


Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KY to 4A7J1-1.

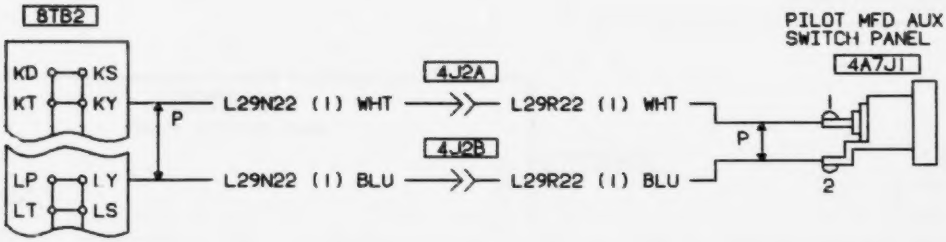
Is continuity present?

Yes

Repair or replace wire L29N22 (1) BLU or L29R22 (1) BLU.

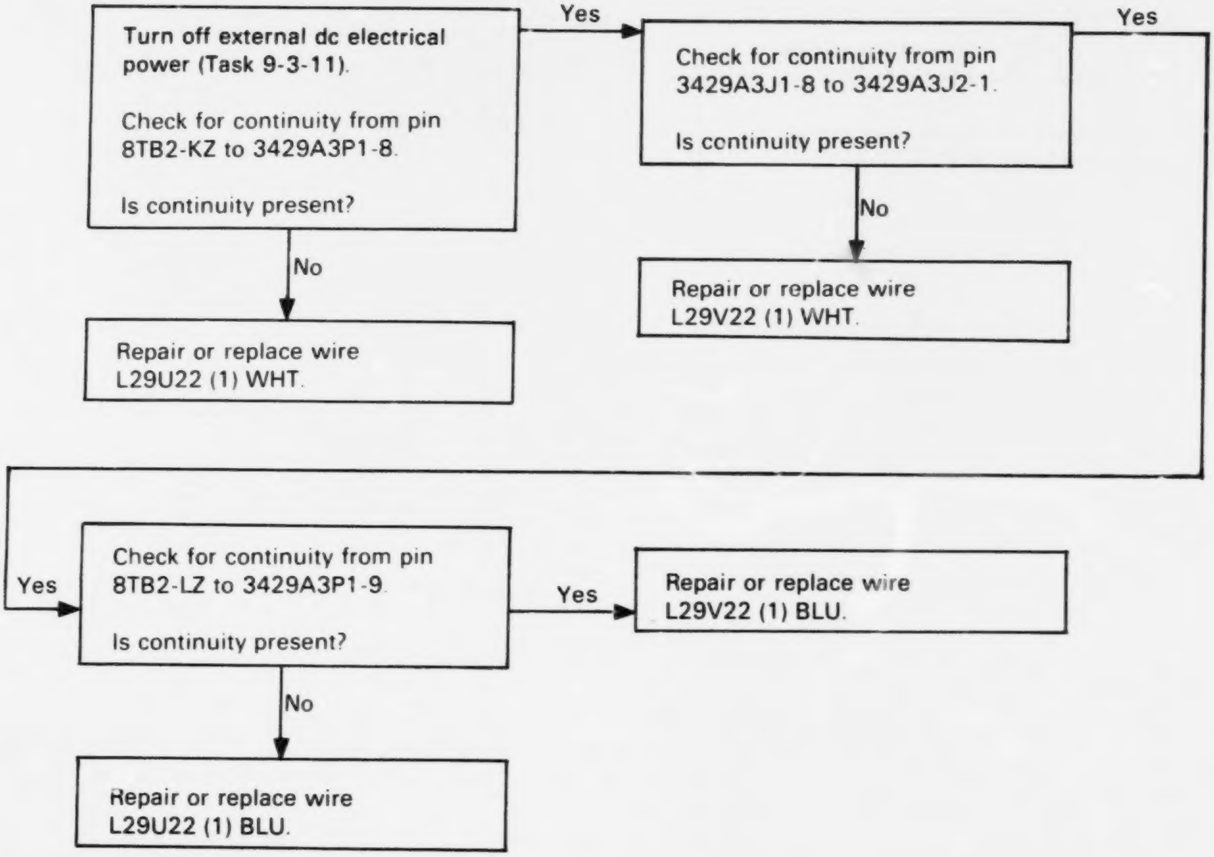
No

Repair or replace wire L29N22 (1) WHT or L29R22 (1) WHT.


8TB2
KD
KS
KT
KY
LP
LY
LT
LS
P
L29N22 (1) WHT
4J2A
L29R22 (1) WHT
L29N22 (1) BLU
4J2B
L29R22 (1) BLU
PILOT MFD AUX
SWITCH PANEL
4A7J1
1
2
P

406475-148
406-475-503C

211. INSTRUMENT LIGHTS SECONDARY DIMMING POTENTIOMETER DOES NOT CONTROL THE MAST MOUNTED SIGHT (MMS) CONTROL


Turn off external dc electrical power (Task 9-3-11).

Check for continuity from pin 8TB2-KZ to 3429A3P1-8.

Is continuity present?

Repair or replace wire L29U22 (1) WHT.

Check for continuity from pin 3429A3J1-8 to 3429A3J2-1.

Is continuity present?

Repair or replace wire L29V22 (1) WHT.

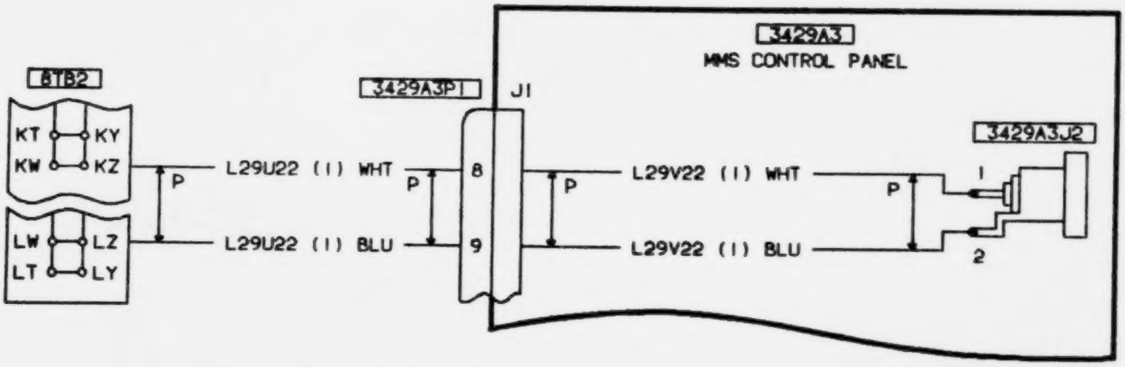
Check for continuity from pin 8TB2-LZ to 3429A3P1-9.

Is continuity present?

Repair or replace wire L29V22 (1) BLU.

Repair or replace wire L29U22 (1) BLU.

Yes
No
Yes
No
Yes
Yes
No


8TB2
KT
KY
KW
KZ
LW
LZ
LT
LY
P
L29U22 (1) WHT
L29U22 (1) BLU
3429A3P1
J1
P
8
9
P
3429A3
MMS CONTROL PANEL
L29V22 (1) WHT
L29V22 (1) BLU
3429A3J2
P
1
2

406475-149A

212. ERROR CODE 0001 WORD 1 RIGHT MCPU FAIL

Turn off external dc elctrical power (Task 9-3-11).

Replace right MCPU 3431A2 (TM 9-1427-779-20).

Perform operational test (Task 9-1-27).

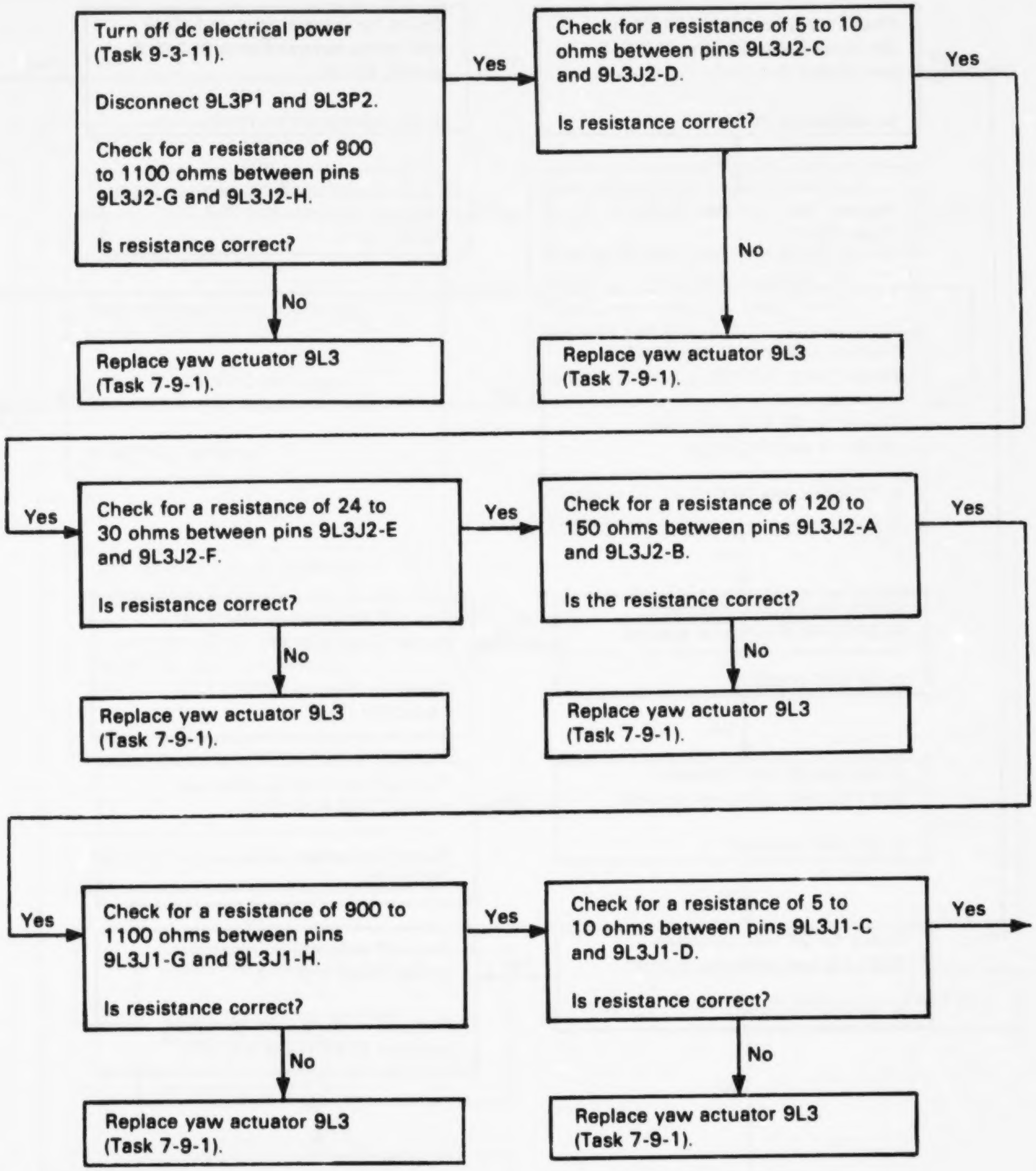
213. ERROR CODE 0002 WORD 1 LEFT MCPU FAIL

Turn off external dc electrical power (Task 9-3-11).

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Perform operational test (Task 9-1-27).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL



Turn off dc electrical power (Task 9-3-11).

Disconnect 9L3P1 and 9L3P2.

Check for a resistance of 900 to 1100 ohms between pins 9L3J2-G and 9L3J2-H.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 5 to 10 ohms between pins 9L3J2-C and 9L3J2-D.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 24 to 30 ohms between pins 9L3J2-E and 9L3J2-F.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 120 to 150 ohms between pins 9L3J2-A and 9L3J2-B.

Is the resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 900 to 1100 ohms between pins 9L3J1-G and 9L3J1-H.

Is resistance correct?

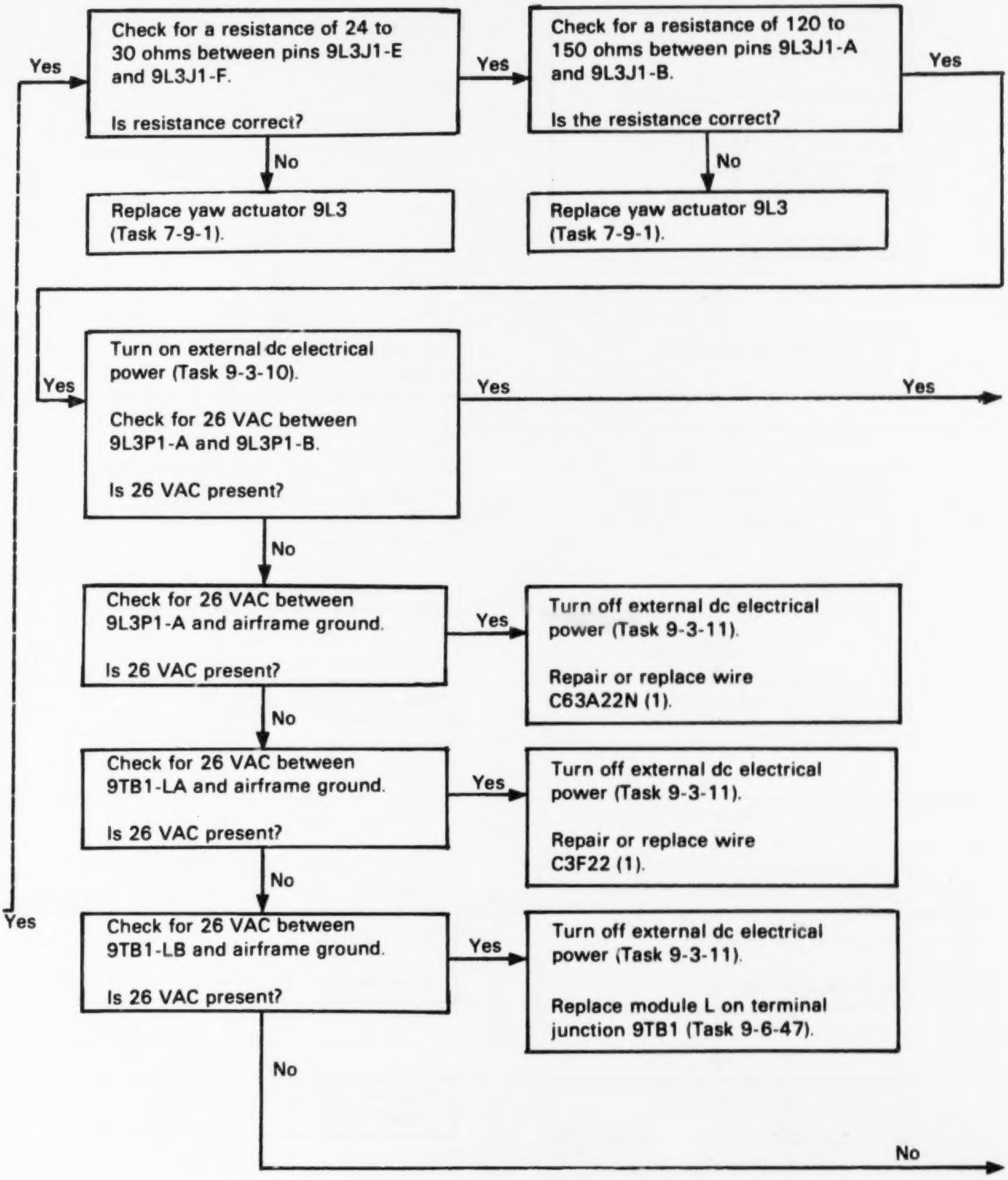
Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 5 to 10 ohms between pins 9L3J1-C and 9L3J1-D.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Check for a resistance of 24 to 30 ohms between pins 9L3J1-E and 9L3J1-F.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 120 to 150 ohms between pins 9L3J1-A and 9L3J1-B.

Is the resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9L3P1-A and 9L3P1-B.

Is 26 VAC present?

Check for 26 VAC between 9L3P1-A and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire C63A22N (1).

Check for 26 VAC between 9TB1-LA and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire C3F22 (1).

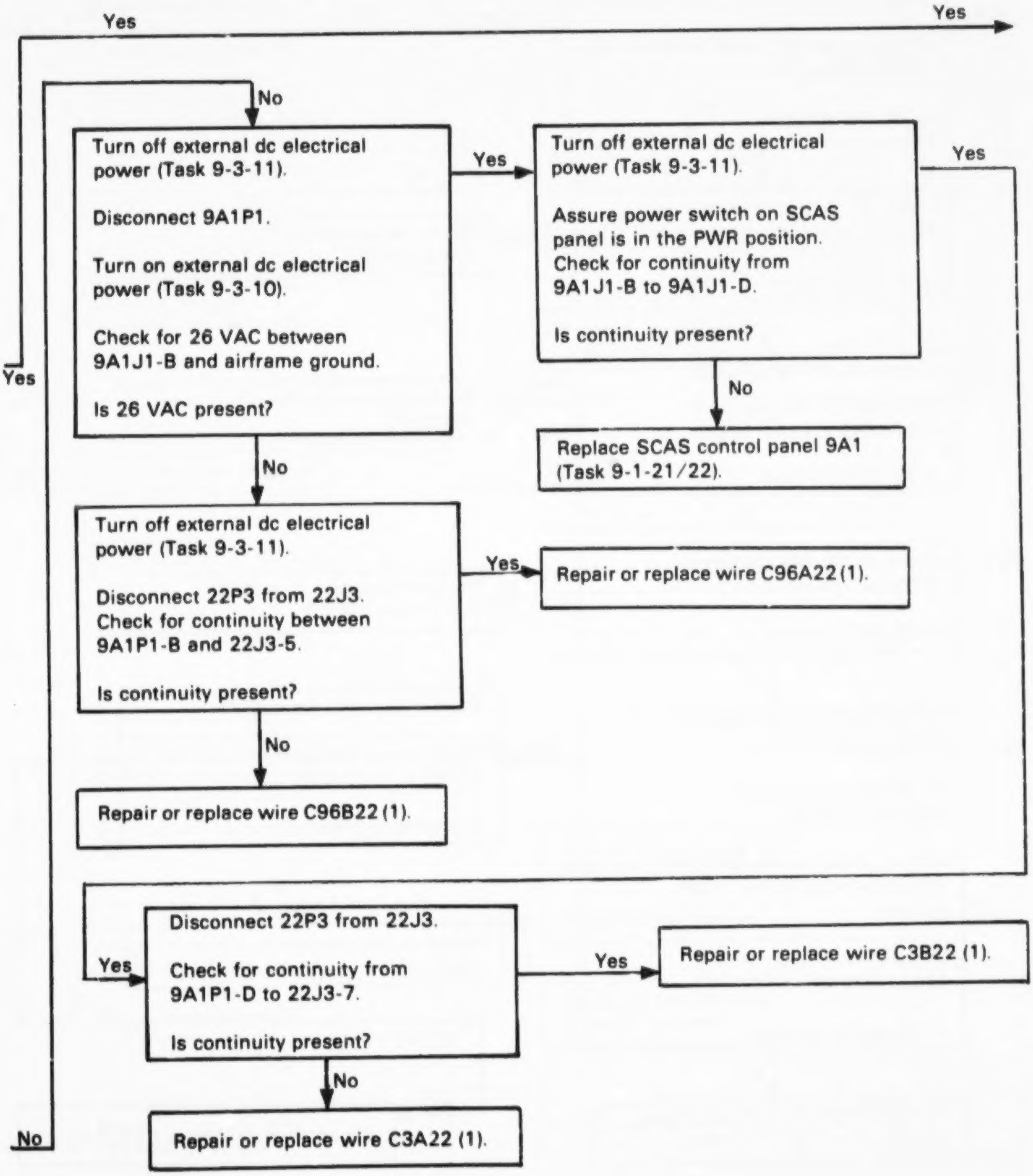
Check for 26 VAC between 9TB1-LB and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Replace module L on terminal junction 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9A1J1-B and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Assure power switch on SCAS panel is in the PWR position. Check for continuity from 9A1J1-B to 9A1J1-D.

Is continuity present?

Replace SCAS control panel 9A1 (Task 9-1-21/22).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 22P3 from 22J3. Check for continuity between 9A1P1-B and 22J3-5.

Is continuity present?

Repair or replace wire C96A22 (1).

Repair or replace wire C96B22 (1).

Disconnect 22P3 from 22J3.

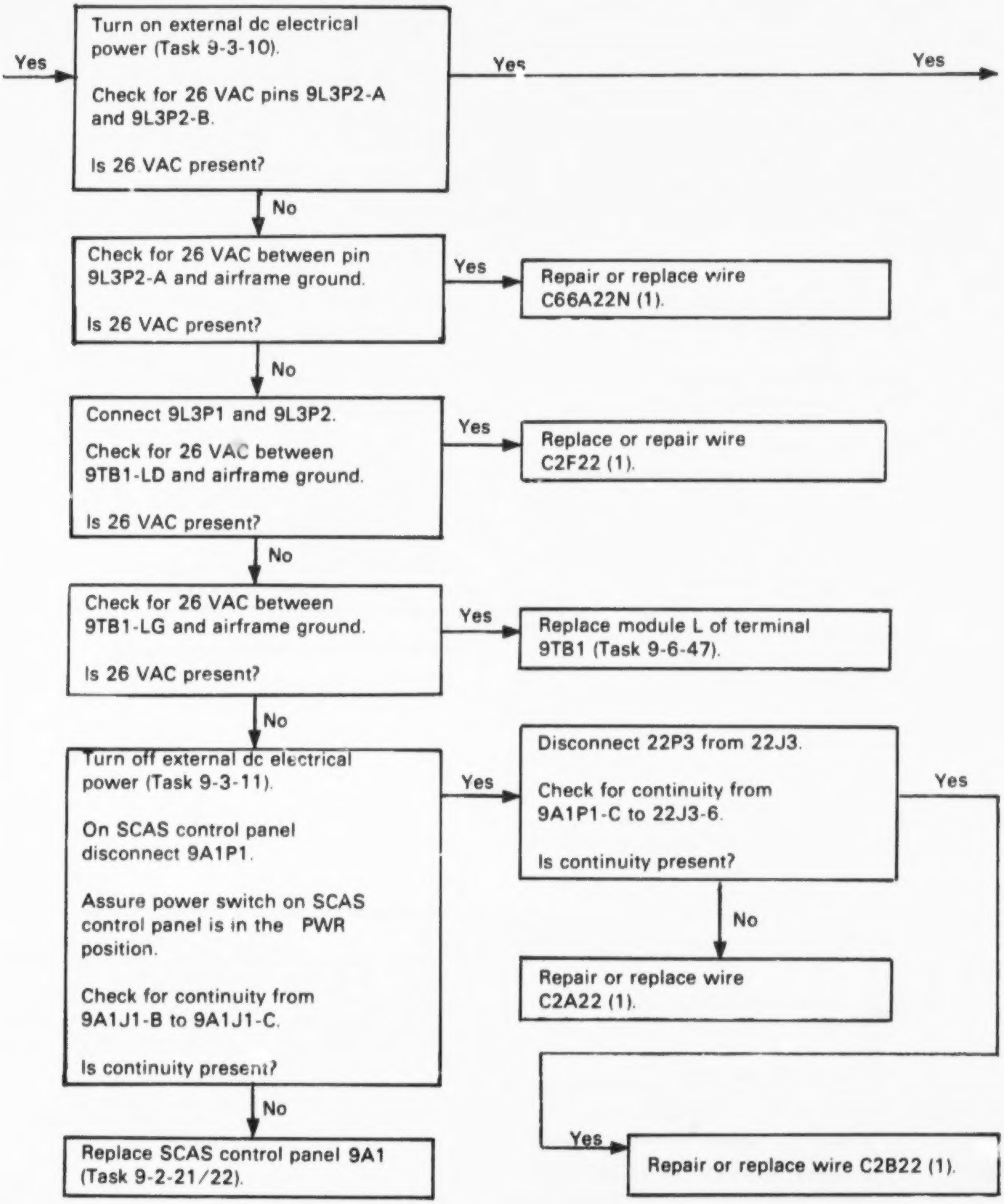
Check for continuity from 9A1P1-D to 22J3-7.

Is continuity present?

Repair or replace wire C3B22 (1).

Repair or replace wire C3A22 (1).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC pins 9L3P2-A and 9L3P2-B.

Is 26 VAC present?

Check for 26 VAC between pin 9L3P2-A and airframe ground.

Is 26 VAC present?

Repair or replace wire C66A22N (1).

Connect 9L3P1 and 9L3P2.

Check for 26 VAC between 9TB1-LD and airframe ground.

Is 26 VAC present?

Replace or repair wire C2F22 (1).

Check for 26 VAC between 9TB1-LG and airframe ground.

Is 26 VAC present?

Replace module L of terminal 9TB1 (Task 9-6-47).

Turn off external dc electrical power (Task 9-3-11).

On SCAS control panel disconnect 9A1P1.

Assure power switch on SCAS control panel is in the PWR position.

Check for continuity from 9A1J1-B to 9A1J1-C.

Is continuity present?

Disconnect 22P3 from 22J3.

Check for continuity from 9A1P1-C to 22J3-6.

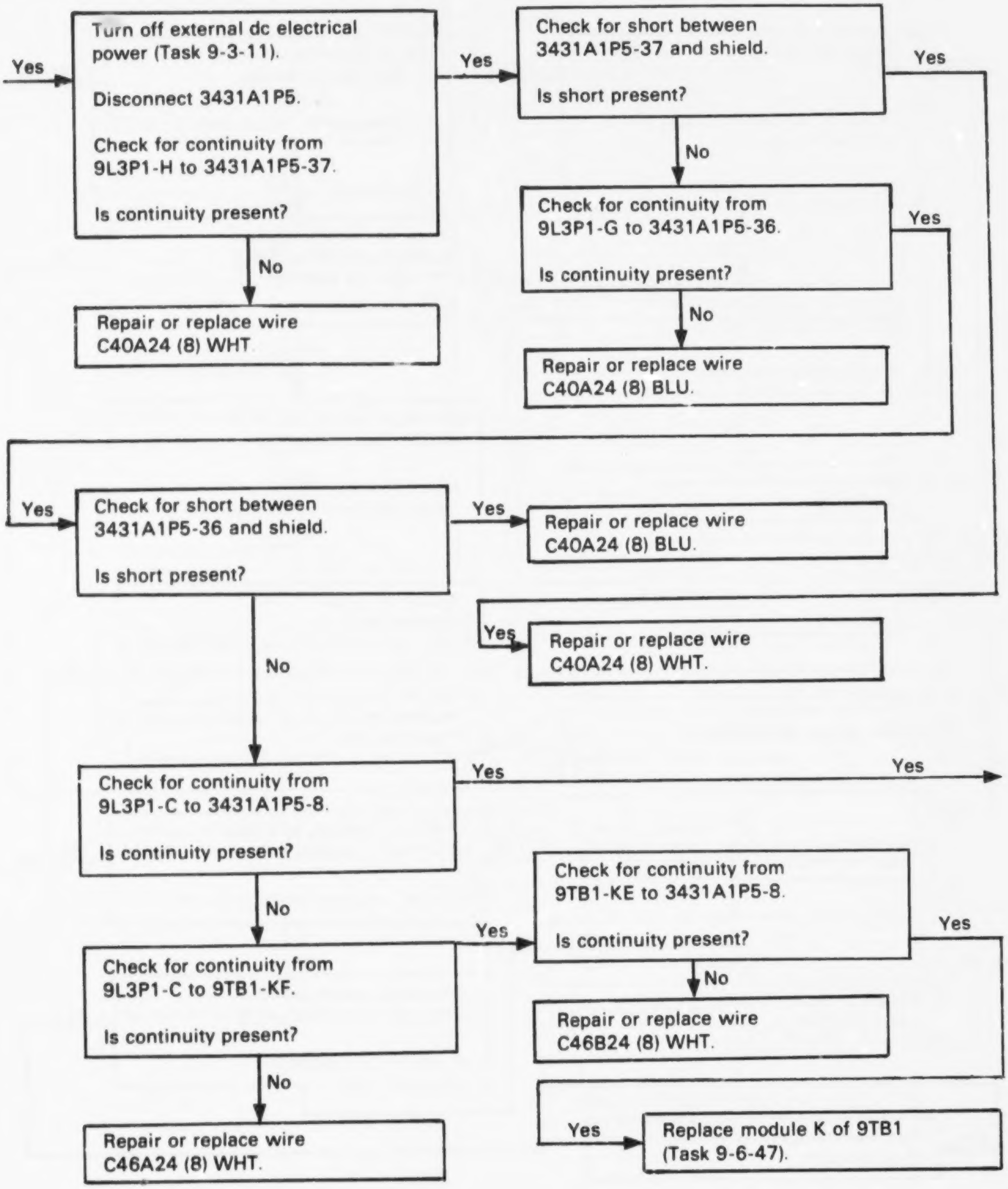
Is continuity present?

Repair or replace wire C2A22 (1).

Replace SCAS control panel 9A1 (Task 9-2-21/22).

Repair or replace wire C2B22 (1).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9L3P1-H to 3431A1P5-37.

Is continuity present?

Repair or replace wire C40A24 (8) WHT.

Check for short between 3431A1P5-37 and shield.

Is short present?

Check for continuity from 9L3P1-G to 3431A1P5-36.

Is continuity present?

Repair or replace wire C40A24 (8) BLU.

Check for short between 3431A1P5-36 and shield.

Is short present?

Repair or replace wire C40A24 (8) BLU.

Repair or replace wire C40A24 (8) WHT.

Check for continuity from 9L3P1-C to 3431A1P5-8.

Is continuity present?

Check for continuity from 9TB1-KE to 3431A1P5-8.

Is continuity present?

Repair or replace wire C46B24 (8) WHT.

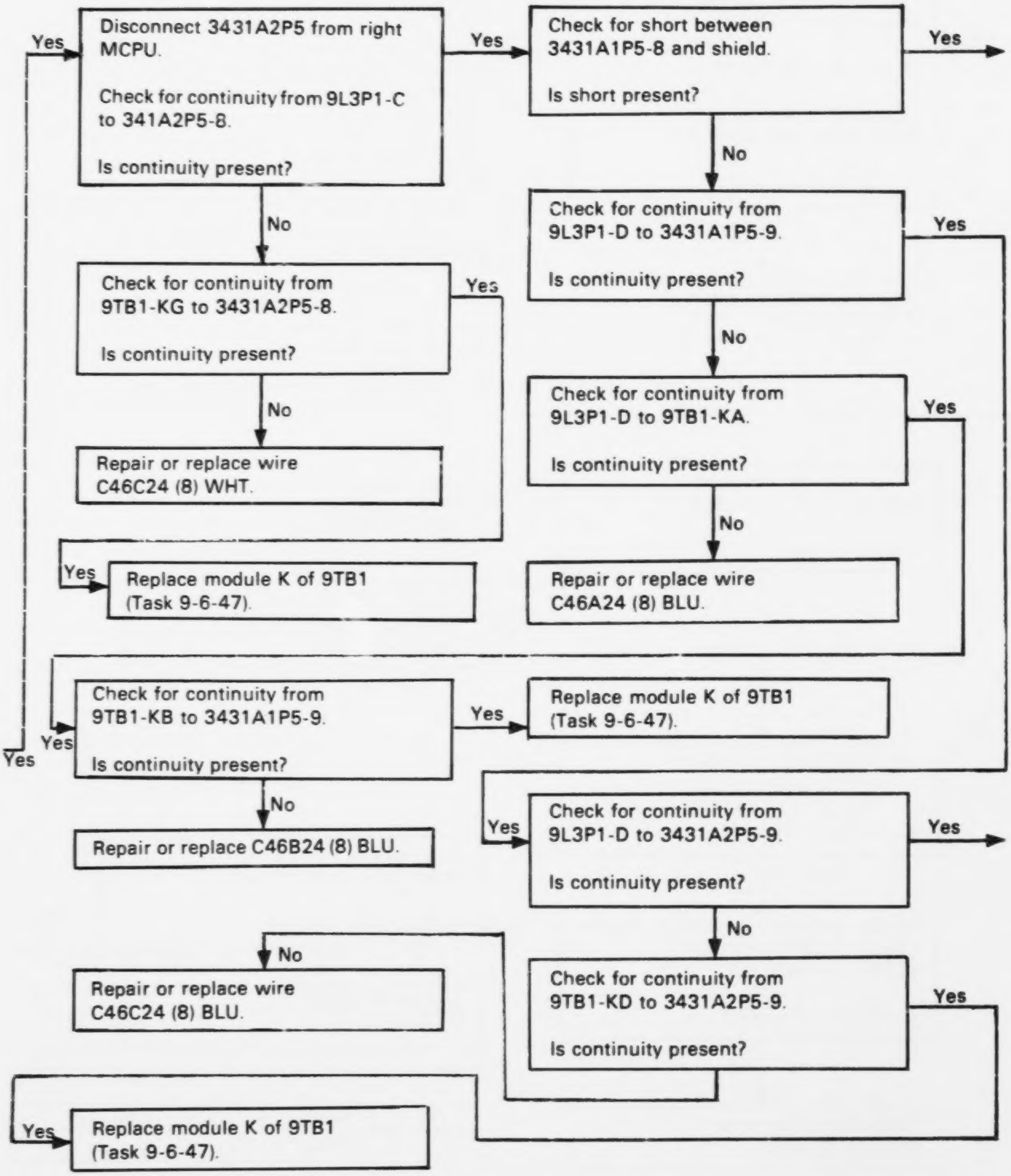
Check for continuity from 9L3P1-C to 9TB1-KF.

Is continuity present?

Repair or replace wire C46A24 (8) WHT.

Replace module K of 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Disconnect 3431A2P5 from right MCPU.

Check for continuity from 9L3P1-C to 341A2P5-8.

Is continuity present?

Check for continuity from 9TB1-KG to 3431A2P5-8.

Is continuity present?

Repair or replace wire C46C24 (8) WHT.

Replace module K of 9TB1 (Task 9-6-47).

Check for short between 3431A1P5-8 and shield.

Is short present?

Check for continuity from 9L3P1-D to 3431A1P5-9.

Is continuity present?

Check for continuity from 9L3P1-D to 9TB1-KA.

Is continuity present?

Repair or replace wire C46A24 (8) BLU.

Check for continuity from 9TB1-KB to 3431A1P5-9.

Is continuity present?

Replace module K of 9TB1 (Task 9-6-47).

Repair or replace C46B24 (8) BLU.

Check for continuity from 9L3P1-D to 3431A2P5-9.

Is continuity present?

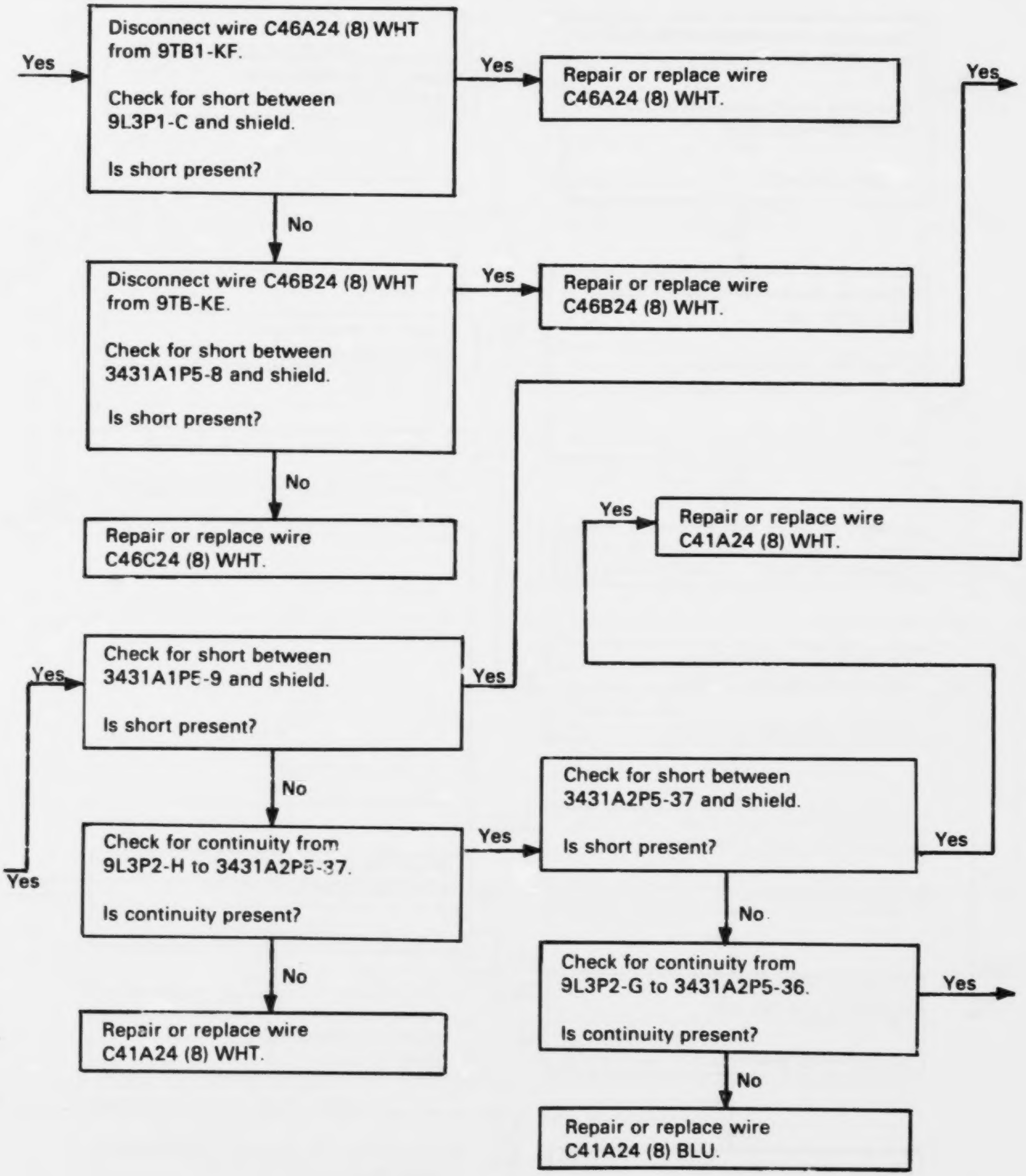
Check for continuity from 9TB1-KD to 3431A2P5-9.

Is continuity present?

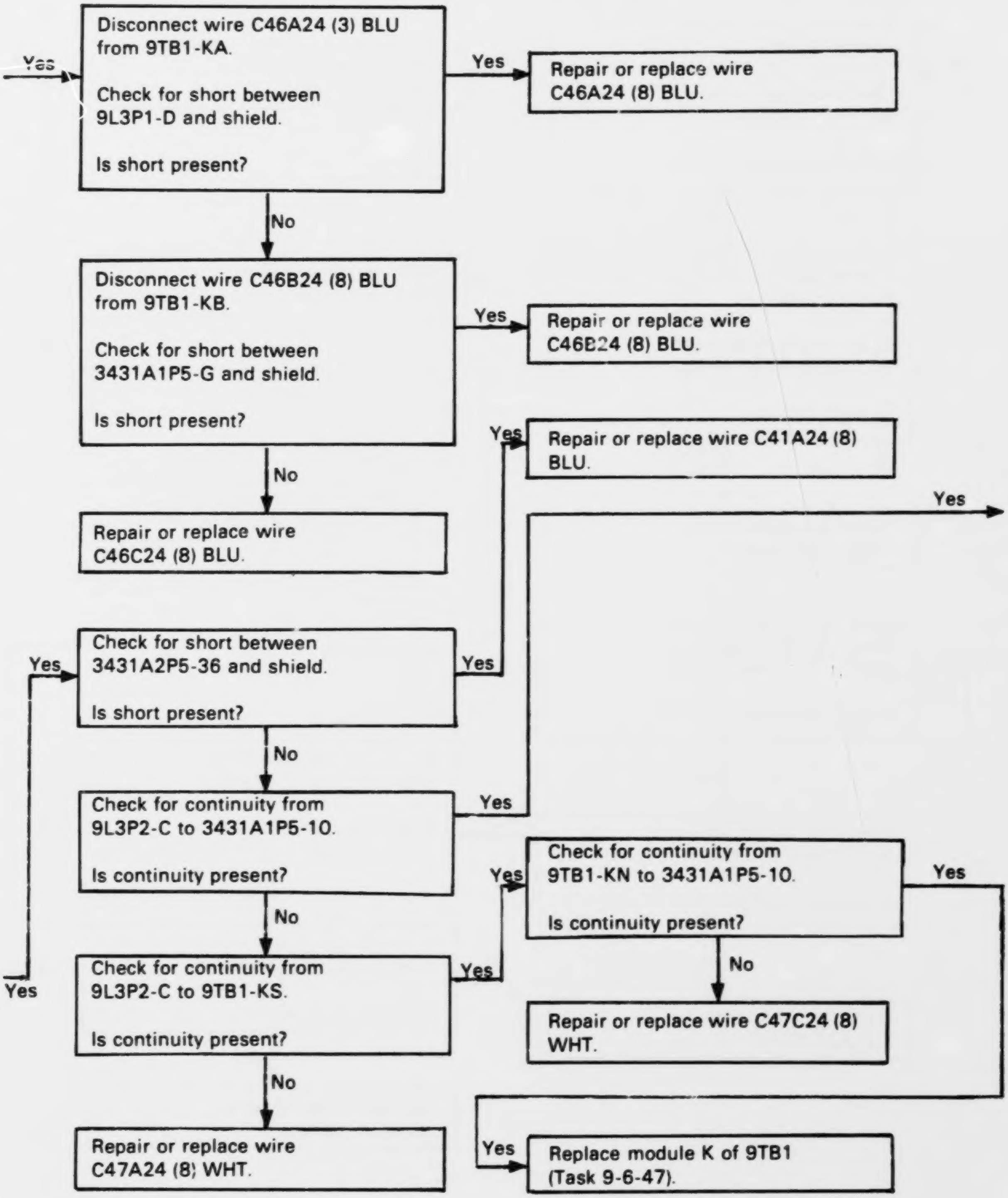
Repair or replace wire C46C24 (8) BLU.

Replace module K of 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)


Yes
Disconnect wire C46A24 (8) WHT from 9TB1-KF. Check for short between 9L3P1-C and shield. Is short present?
Yes
Repair or replace wire C46A24 (8) WHT.
Yes
No
Disconnect wire C46B24 (8) WHT from 9TB-KE. Check for short between 3431A1P5-8 and shield. Is short present?
Yes
Repair or replace wire C46B24 (8) WHT.
No
Repair or replace wire C46C24 (8) WHT.
Yes
Repair or replace wire C41A24 (8) WHT.
Yes
Check for short between 3431A1P5-9 and shield. Is short present?
Yes
No
Check for continuity from 9L3P2-H to 3431A2P5-37. Is continuity present?
Yes
Yes
Check for short between 3431A2P5-37 and shield. Is short present?
Yes
No
Repair or replace wire C41A24 (8) WHT.
No
Check for continuity from 9L3P2-G to 3431A2P5-36. Is continuity present?
Yes
No
Repair or replace wire C41A24 (8) BLU.

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Disconnect wire C46A24 (3) BLU from 9TB1-KA.

Check for short between 9L3P1-D and shield.

Is short present?

Repair or replace wire C46A24 (8) BLU.

Disconnect wire C46B24 (8) BLU from 9TB1-KB.

Check for short between 3431A1P5-G and shield.

Is short present?

Repair or replace wire C46B24 (8) BLU.

Repair or replace wire C41A24 (8) BLU.

Repair or replace wire C46C24 (8) BLU.

Check for short between 3431A2P5-36 and shield.

Is short present?

Check for continuity from 9L3P2-C to 3431A1P5-10.

Is continuity present?

Check for continuity from 9TB1-KN to 3431A1P5-10.

Is continuity present?

Check for continuity from 9L3P2-C to 9TB1-KS.

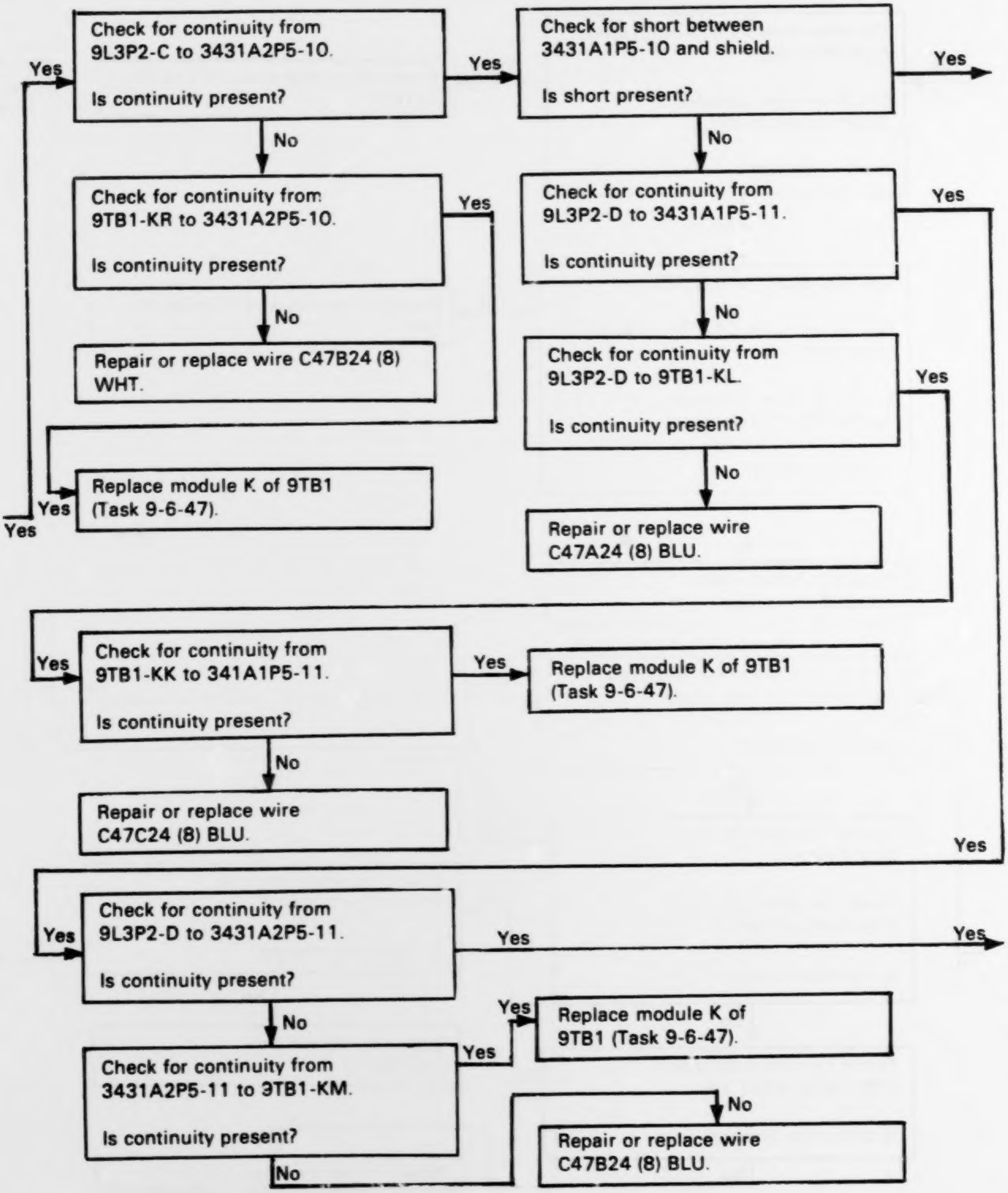
Is continuity present?

Repair or replace wire C47C24 (8) WHT.

Repair or replace wire C47A24 (8) WHT.

Replace module K of 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Check for continuity from 9L3P2-C to 3431A2P5-10. Is continuity present?

Check for short between 3431A1P5-10 and shield. Is short present?

Check for continuity from 9TB1-KR to 3431A2P5-10. Is continuity present?

Check for continuity from 9L3P2-D to 3431A1P5-11. Is continuity present?

Repair or replace wire C47B24 (8) WHT.

Check for continuity from 9L3P2-D to 9TB1-KL. Is continuity present?

Replace module K of 9TB1 (Task 9-6-47).

Repair or replace wire C47A24 (8) BLU.

Check for continuity from 9TB1-KK to 341A1P5-11. Is continuity present?

Replace module K of 9TB1 (Task 9-6-47).

Repair or replace wire C47C24 (8) BLU.

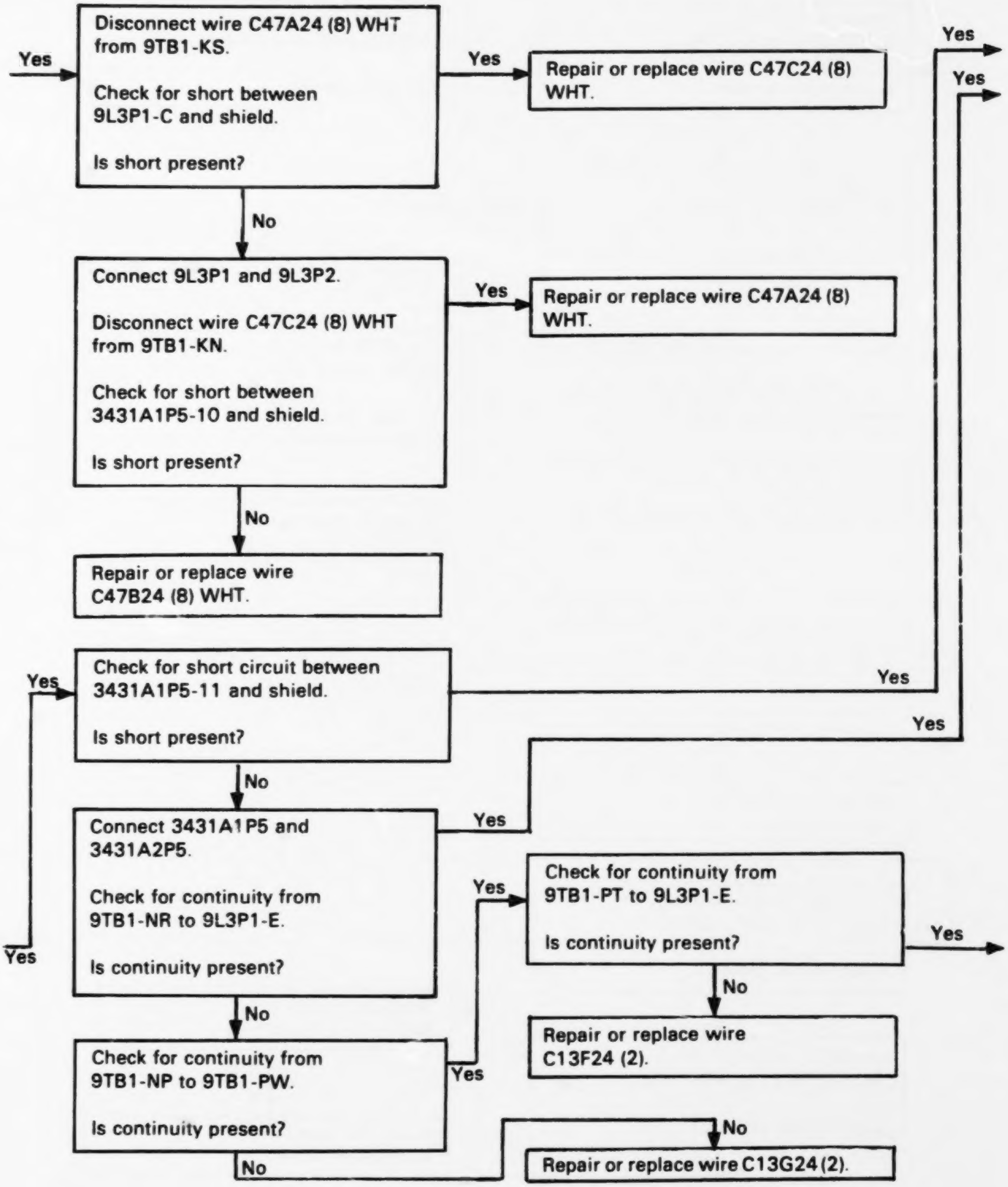
Check for continuity from 9L3P2-D to 3431A2P5-11. Is continuity present?

Replace module K of 9TB1 (Task 9-6-47).

Check for continuity from 3431A2P5-11 to 9TB1-KM. Is continuity present?

Repair or replace wire C47B24 (8) BLU.

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Disconnect wire C47A24 (8) WHT from 9TB1-KS.

Check for short between 9L3P1-C and shield.

Is short present?

Repair or replace wire C47C24 (8) WHT.

Connect 9L3P1 and 9L3P2.

Disconnect wire C47C24 (8) WHT from 9TB1-KN.

Check for short between 3431A1P5-10 and shield.

Is short present?

Repair or replace wire C47A24 (8) WHT.

Repair or replace wire C47B24 (8) WHT.

Check for short circuit between 3431A1P5-11 and shield.

Is short present?

Connect 3431A1P5 and 3431A2P5.

Check for continuity from 9TB1-NR to 9L3P1-E.

Is continuity present?

Check for continuity from 9TB1-PT to 9L3P1-E.

Is continuity present?

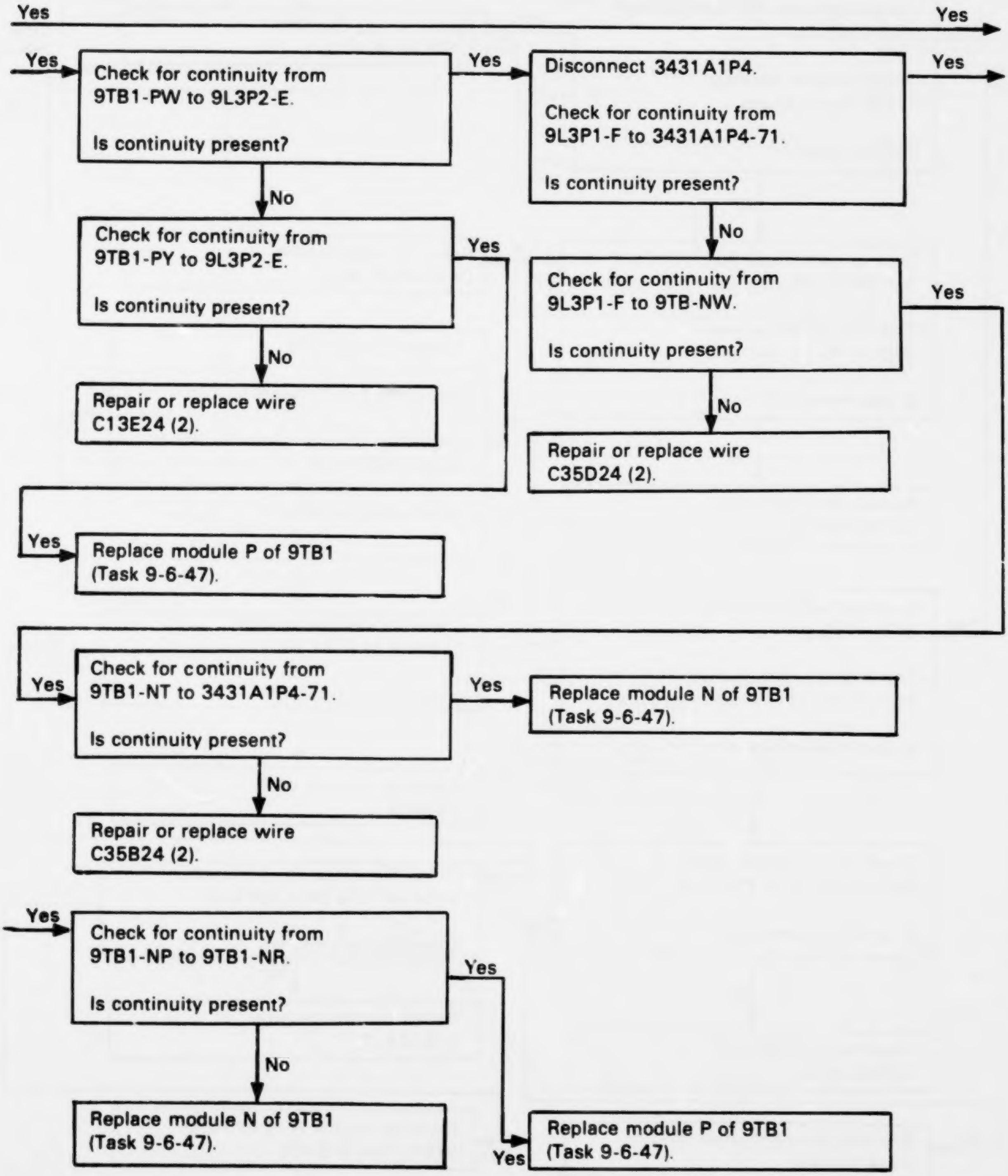
Repair or replace wire C13F24 (2).

Check for continuity from 9TB1-NP to 9TB1-PW.

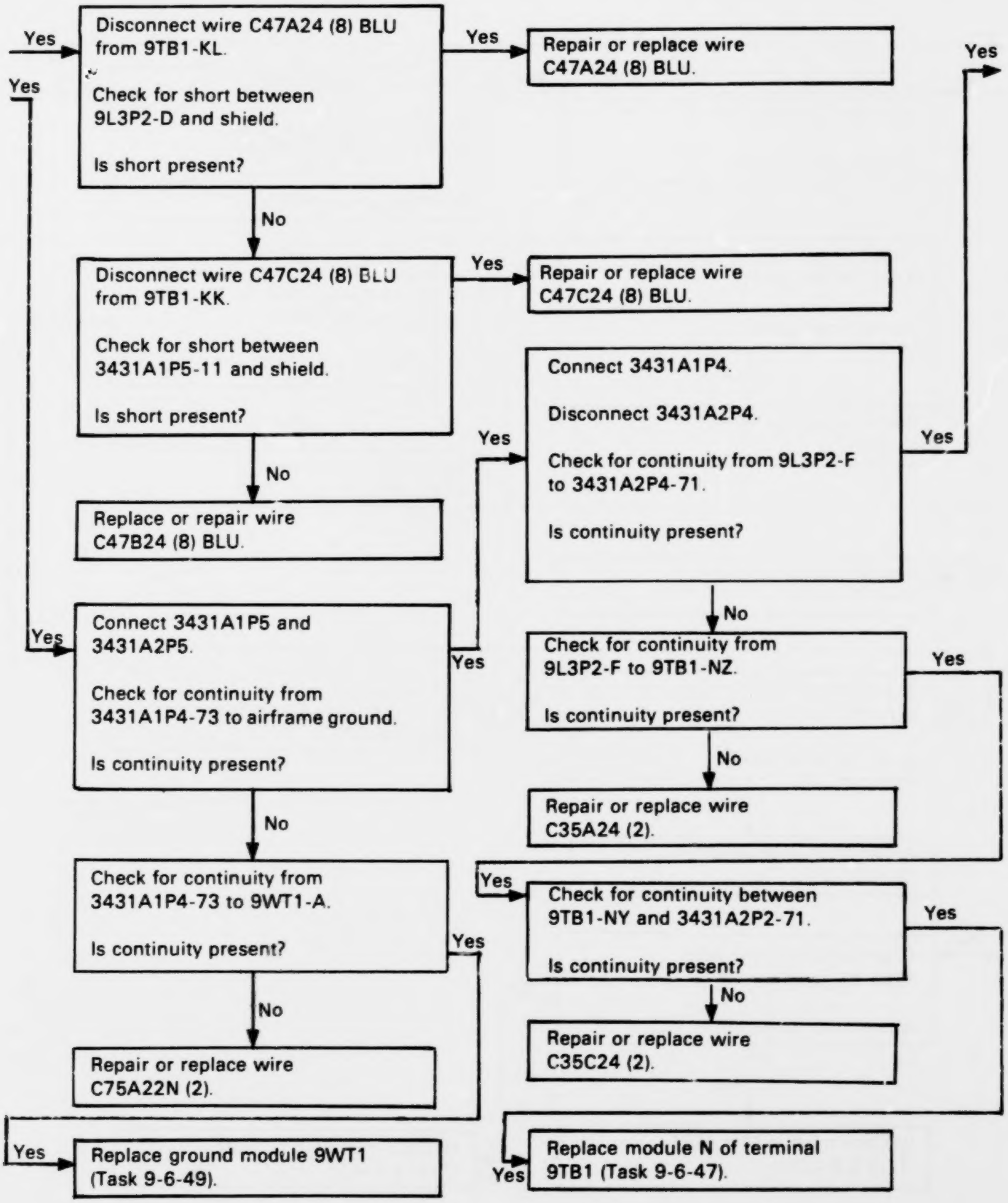
Is continuity present?

Repair or replace wire C13G24 (2).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)


Yes
Yes
Yes
Check for continuity from 9TB1-PW to 9L3P2-E. Is continuity present?
Yes
Disconnect 3431A1P4. Check for continuity from 9L3P1-F to 3431A1P4-71. Is continuity present?
Yes
No
Check for continuity from 9TB1-PY to 9L3P2-E. Is continuity present?
Yes
No
Check for continuity from 9L3P1-F to 9TB-NW. Is continuity present?
Yes
No
Repair or replace wire C13E24 (2).
No
Repair or replace wire C35D24 (2).
Yes
Replace module P of 9TB1 (Task 9-6-47).
Yes
Check for continuity from 9TB1-NT to 3431A1P4-71. Is continuity present?
Yes
Replace module N of 9TB1 (Task 9-6-47).
No
Repair or replace wire C35B24 (2).
Yes
Check for continuity from 9TB1-NP to 9TB1-NR. Is continuity present?
Yes
No
Replace module N of 9TB1 (Task 9-6-47).
Yes
Replace module P of 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)



Disconnect wire C47A24 (8) BLU from 9TB1-KL.

Check for short between 9L3P2-D and shield.

Is short present?

Repair or replace wire C47A24 (8) BLU.

Disconnect wire C47C24 (8) BLU from 9TB1-KK.

Check for short between 3431A1P5-11 and shield.

Is short present?

Repair or replace wire C47C24 (8) BLU.

Replace or repair wire C47B24 (8) BLU.

Connect 3431A1P4.

Disconnect 3431A2P4.

Check for continuity from 9L3P2-F to 3431A2P4-71.

Is continuity present?

Connect 3431A1P5 and 3431A2P5.

Check for continuity from 3431A1P4-73 to airframe ground.

Is continuity present?

Check for continuity from 9L3P2-F to 9TB1-NZ.

Is continuity present?

Repair or replace wire C35A24 (2).

Check for continuity from 3431A1P4-73 to 9WT1-A.

Is continuity present?

Check for continuity between 9TB1-NY and 3431A2P2-71.

Is continuity present?

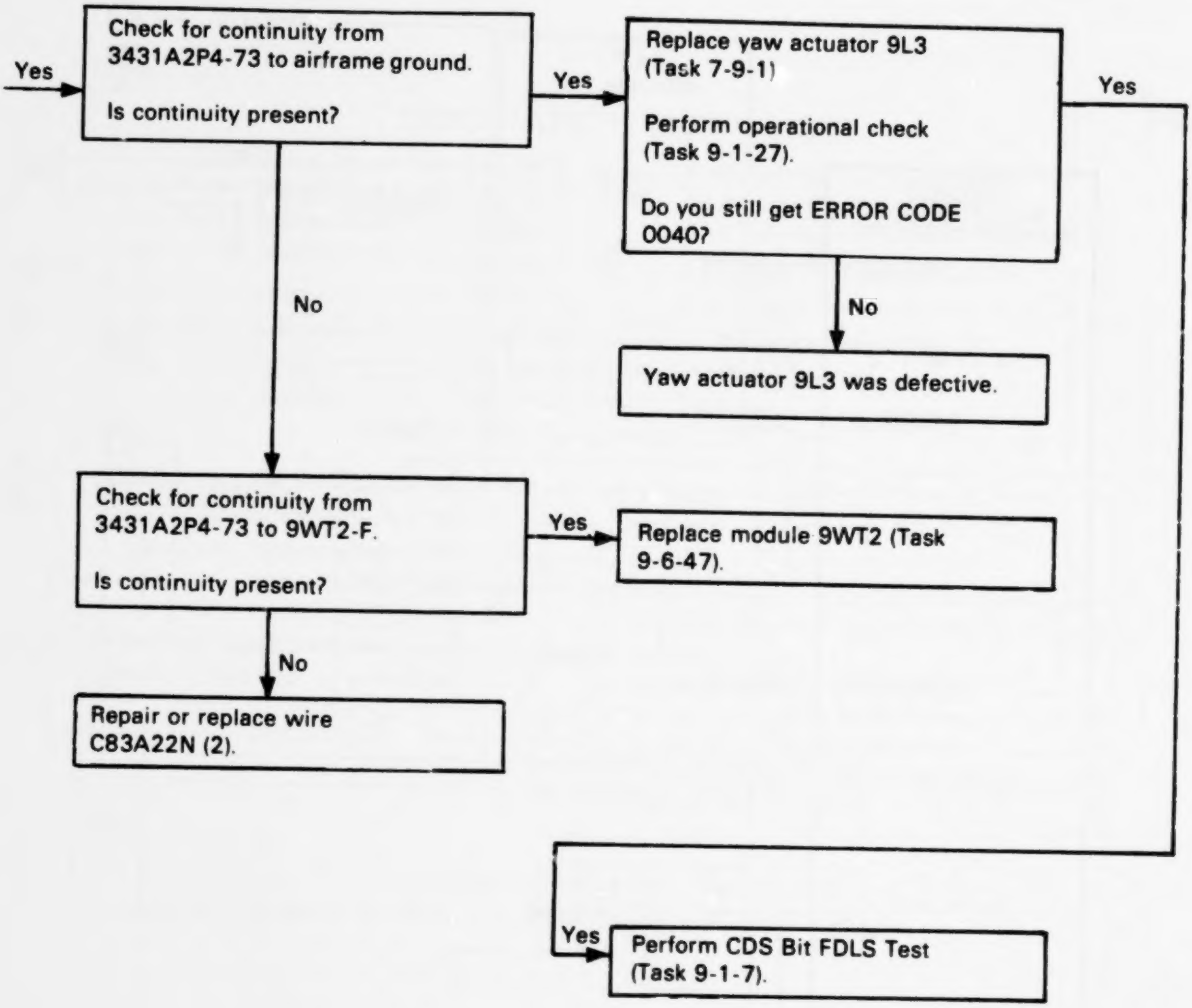
Repair or replace wire C75A22N (2).

Repair or replace wire C35C24 (2).

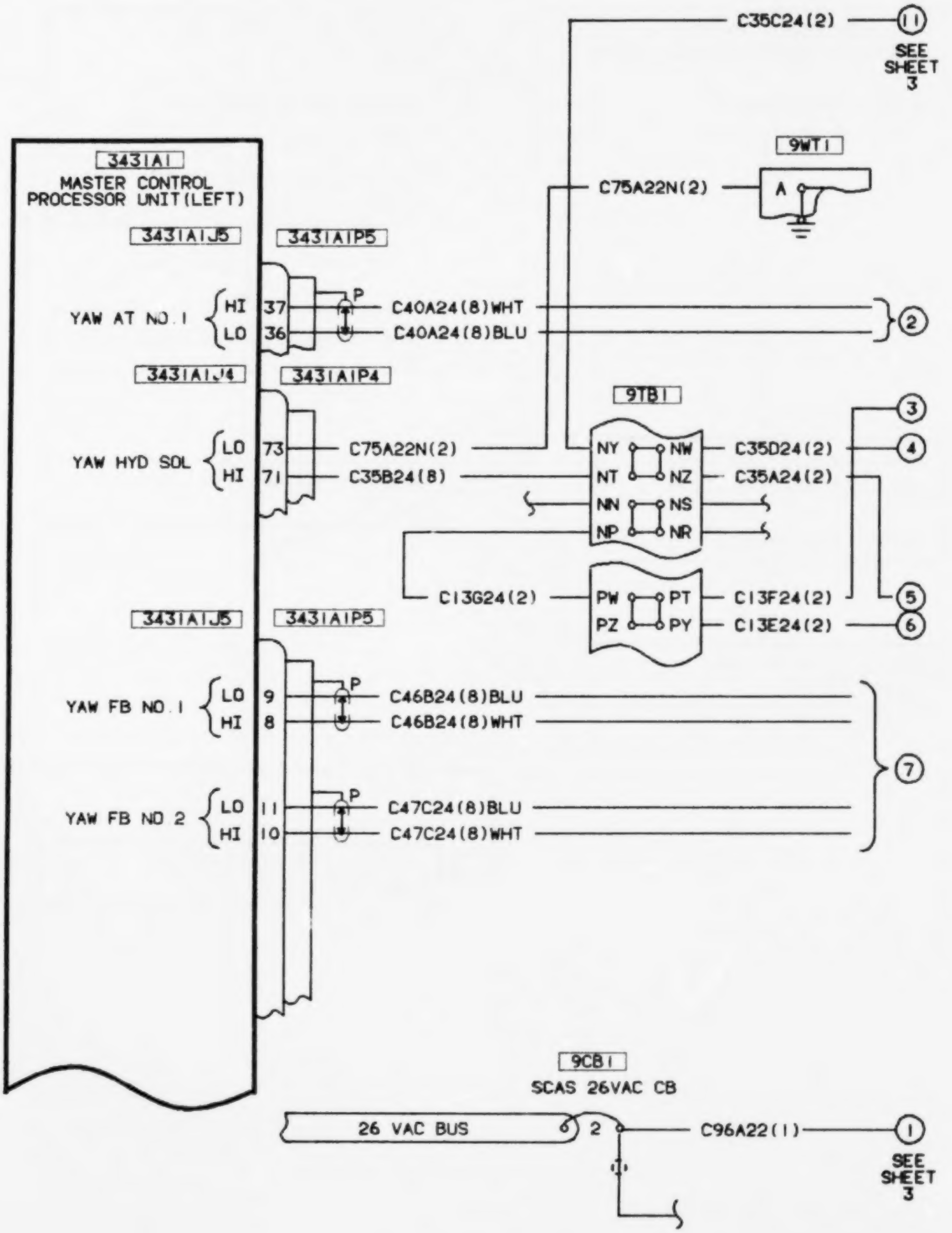
Replace ground module 9WT1 (Task 9-6-49).

Replace module N of terminal 9TB1 (Task 9-6-47).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)

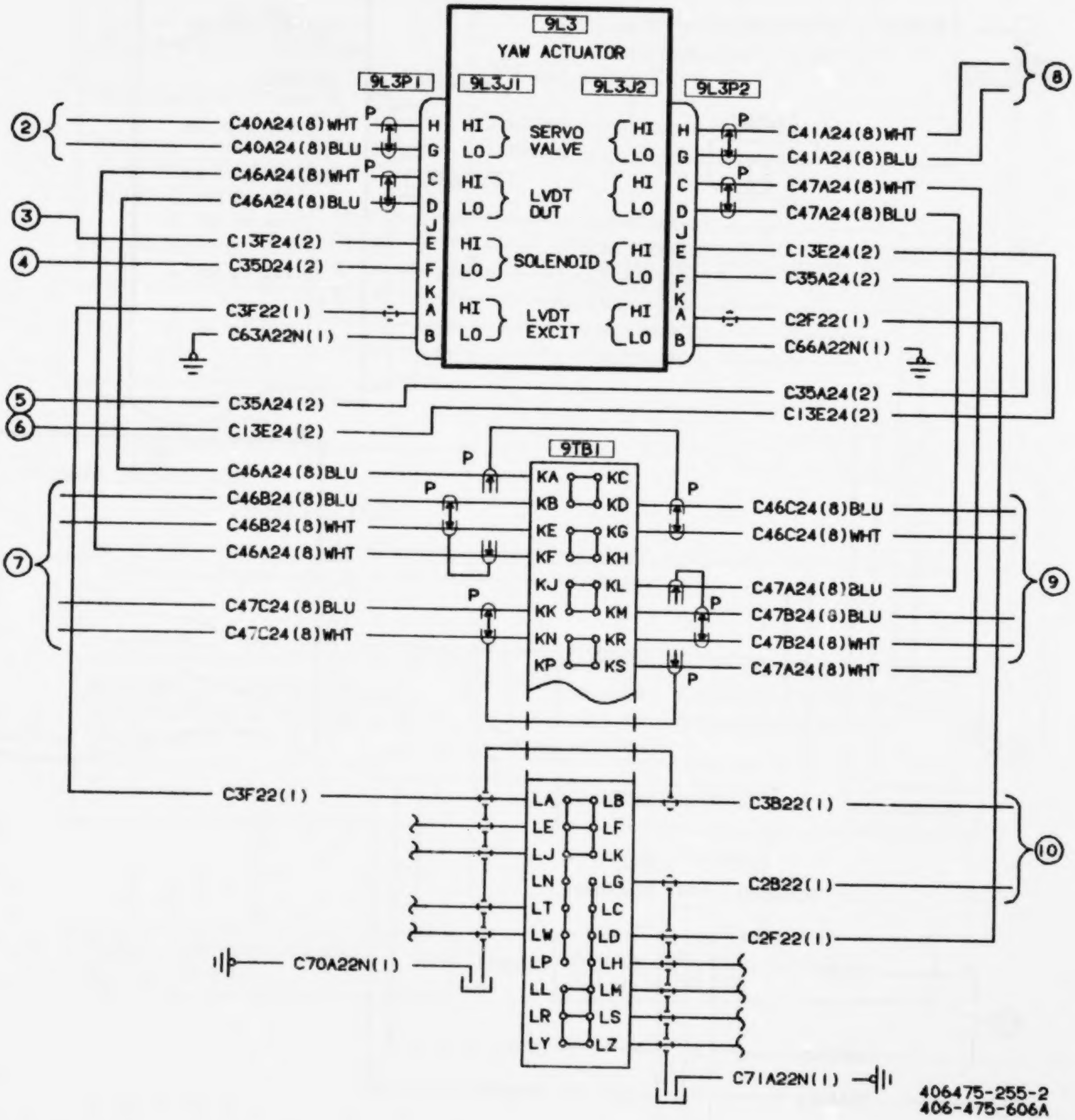

Yes
Check for continuity from 3431A2P4-73 to airframe ground.
Is continuity present?
Yes
Replace yaw actuator 9L3 (Task 7-9-1)
Perform operational check (Task 9-1-27).
Do you still get ERROR CODE 0040?
Yes
No
No
Yaw actuator 9L3 was defective.
Check for continuity from 3431A2P4-73 to 9WT2-F.
Is continuity present?
Yes
Replace module 9WT2 (Task 9-6-47).
No
Repair or replace wire C83A22N (2).
Yes
Perform CDS Bit FDLS Test (Task 9-1-7).

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)


C35C24(2)
11
SEE SHEET 3
9WT1
A
C75A22N(2)
3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1J5
3431A1P5
YAW AT NO. 1
HI 37
LO 36
P
C40A24(8)WHT
C40A24(8)BLU
2
3431A1J4
3431A1P4
9TB1
YAW HYD SOL
LO 73
HI 71
C75A22N(2)
C35B24(8)
NY NW
NT NZ
NN NS
NP NR
C35D24(2)
C35A24(2)
3
4
C13G24(2)
PW PT
PZ PY
C13F24(2)
C13E24(2)
5
6
3431A1J5
3431A1P5
YAW FB NO. 1
LO 9
HI 8
C46B24(8)BLU
C46B24(8)WHT
YAW FB NO 2
LO 11
HI 10
C47C24(8)BLU
C47C24(8)WHT
7
9CB1
SCAS 26VAC CB
26 VAC BUS
2
C96A22(1)
1
SEE SHEET 3

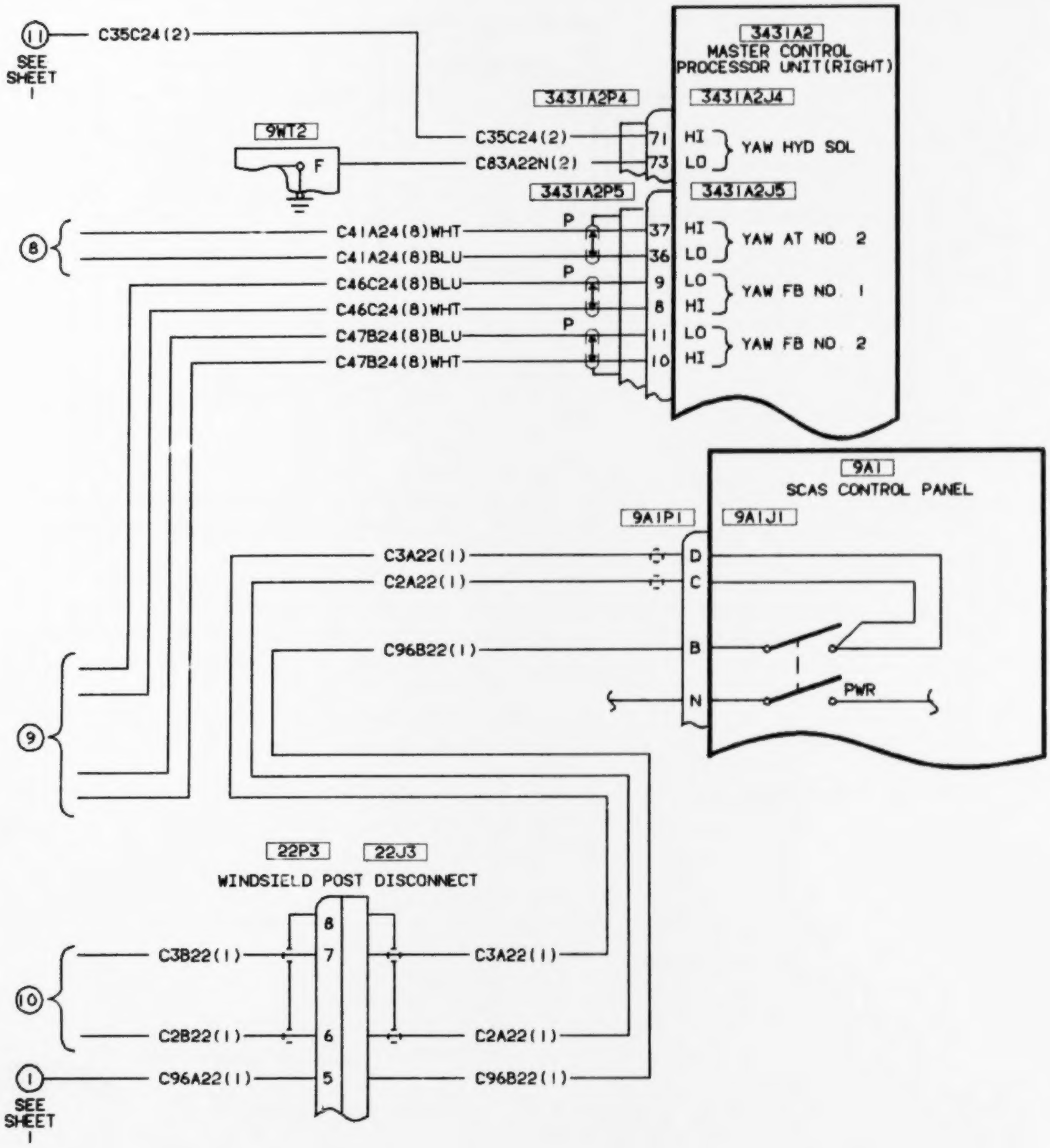
406475-255-1
406-475-606A

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)


9L3
YAW ACTUATOR
9L3P1
9L3J1
9L3J2
9L3P2
②
C40A24(8)WHT
C40A24(8)BLU
C46A24(8)WHT
C46A24(8)BLU
③
C13F24(2)
④
C35D24(2)
C3F22(1)
C63A22N(1)
P
H
G
C
D
J
E
F
K
A
B
HI
LO
SERVO VALVE
LVDT OUT
SOLENOID
LVDT EXCIT
⑧
C41A24(8)WHT
C41A24(8)BLU
C47A24(8)WHT
C47A24(8)BLU
C13E24(2)
C35A24(2)
C2F22(1)
C66A22N(1)
⑤
C35A24(2)
⑥
C13E24(2)
C35A24(2)
C13E24(2)
9TB1
⑦
C46A24(8)BLU
C46B24(8)BLU
C46B24(8)WHT
C46A24(8)WHT
C47C24(8)BLU
C47C24(8)WHT
KA
KB
KE
KF
KJ
KK
KN
KP
KC
KD
KG
KH
KL
KM
KR
KS
⑨
C46C24(8)BLU
C46C24(8)WHT
C47A24(8)BLU
C47B24(8)BLU
C47B24(8)WHT
C47A24(8)WHT
C3F22(1)
LA
LE
LJ
LN
LT
LW
LP
LL
LR
LY
LB
LF
LK
LG
LC
LD
LH
LM
LS
LZ
C70A22N(1)
⑩
C3B22(1)
C2B22(1)
C2F22(1)
C71A22N(1)

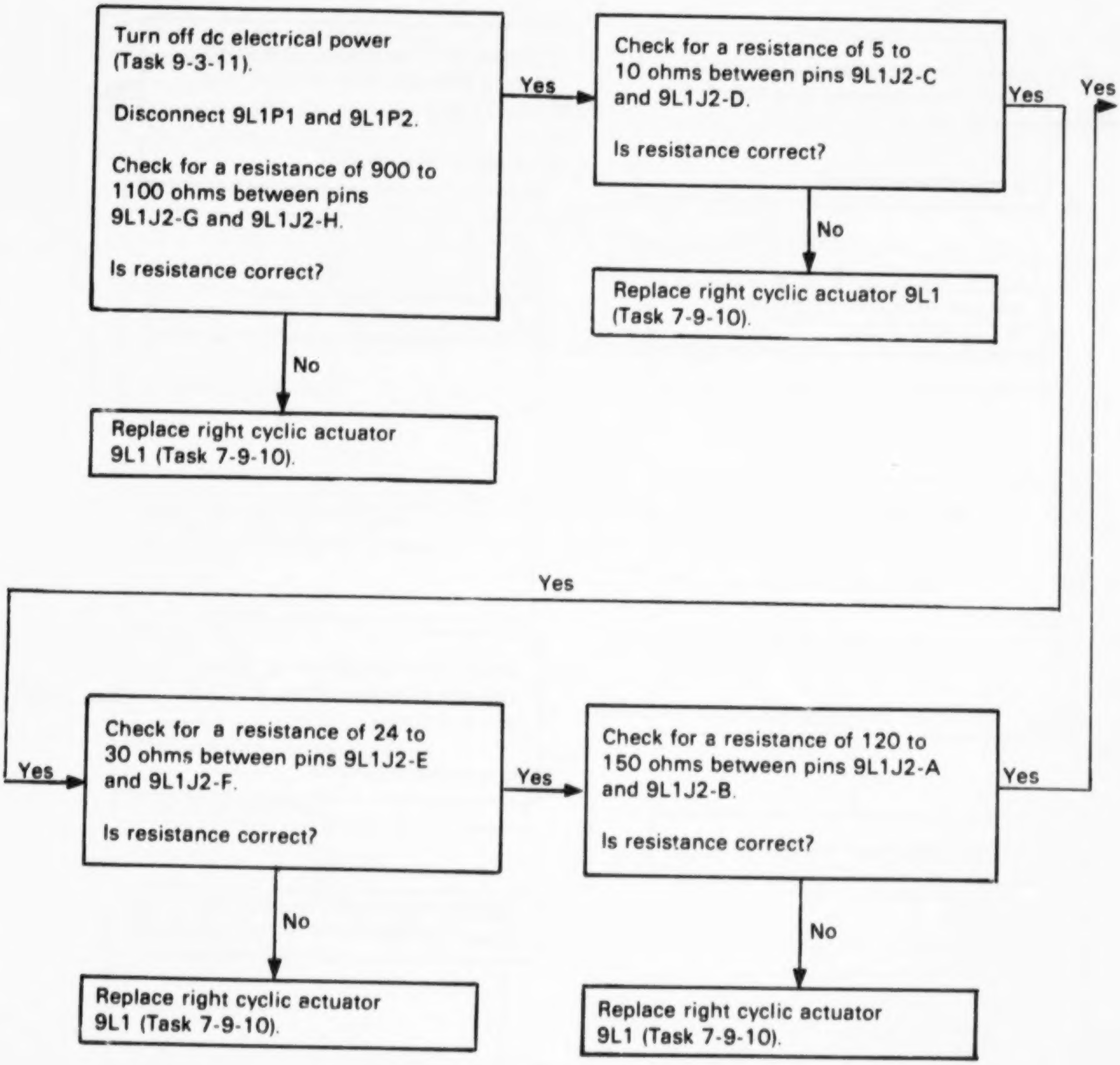
406475-255-2
406-475-606A

214. ERROR CODE 0040 WORD 1 YAW ACTUATOR FAIL (CONT)


11
SEE SHEET 1
C35C24(2)
3431A2
MASTER CONTROL PROCESSOR UNIT(RIGHT)
3431A2P4
3431A2J4
9WT2
F
C35C24(2)
C83A22N(2)
71
73
HI
LO
YAW HYD SOL
3431A2P5
3431A2J5
8
P
C41A24(8)WHT
C41A24(8)BLU
C46C24(8)BLU
C46C24(8)WHT
C47B24(8)BLU
C47B24(8)WHT
37
36
9
8
11
10
HI
LO
YAW AT NO. 2
LO
HI
YAW FB NO. 1
LO
HI
YAW FB NO. 2
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
C3A22(1)
C2A22(1)
C96B22(1)
D
C
B
N
PWR
9
22P3
22J3
WINDSIELD POST DISCONNECT
8
7
6
5
10
C3B22(1)
C2B22(1)
C96A22(1)
C3A22(1)
C2A22(1)
C96B22(1)
1
SEE SHEET 1

406475-255-3
406-475-606A

215. ERROR 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL



Turn off dc electrical power (Task 9-3-11).

Disconnect 9L1P1 and 9L1P2.

Check for a resistance of 900 to 1100 ohms between pins 9L1J2-G and 9L1J2-H.

Is resistance correct?

Replace right cyclic actuator 9L1 (Task 7-9-10).

Check for a resistance of 5 to 10 ohms between pins 9L1J2-C and 9L1J2-D.

Is resistance correct?

Replace right cyclic actuator 9L1 (Task 7-9-10).

Check for a resistance of 24 to 30 ohms between pins 9L1J2-E and 9L1J2-F.

Is resistance correct?

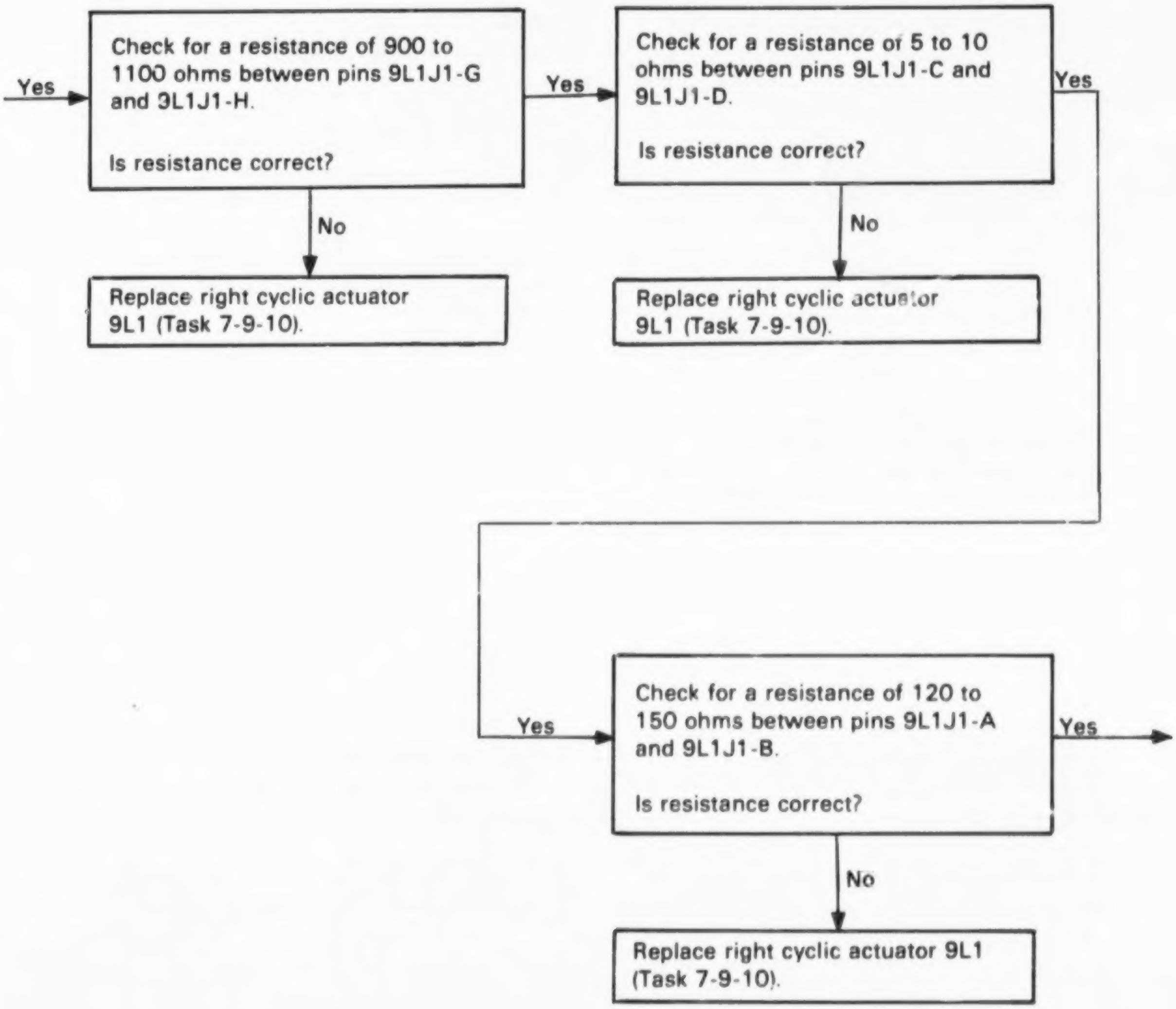
Replace right cyclic actuator 9L1 (Task 7-9-10).

Check for a resistance of 120 to 150 ohms between pins 9L1J2-A and 9L1J2-B.

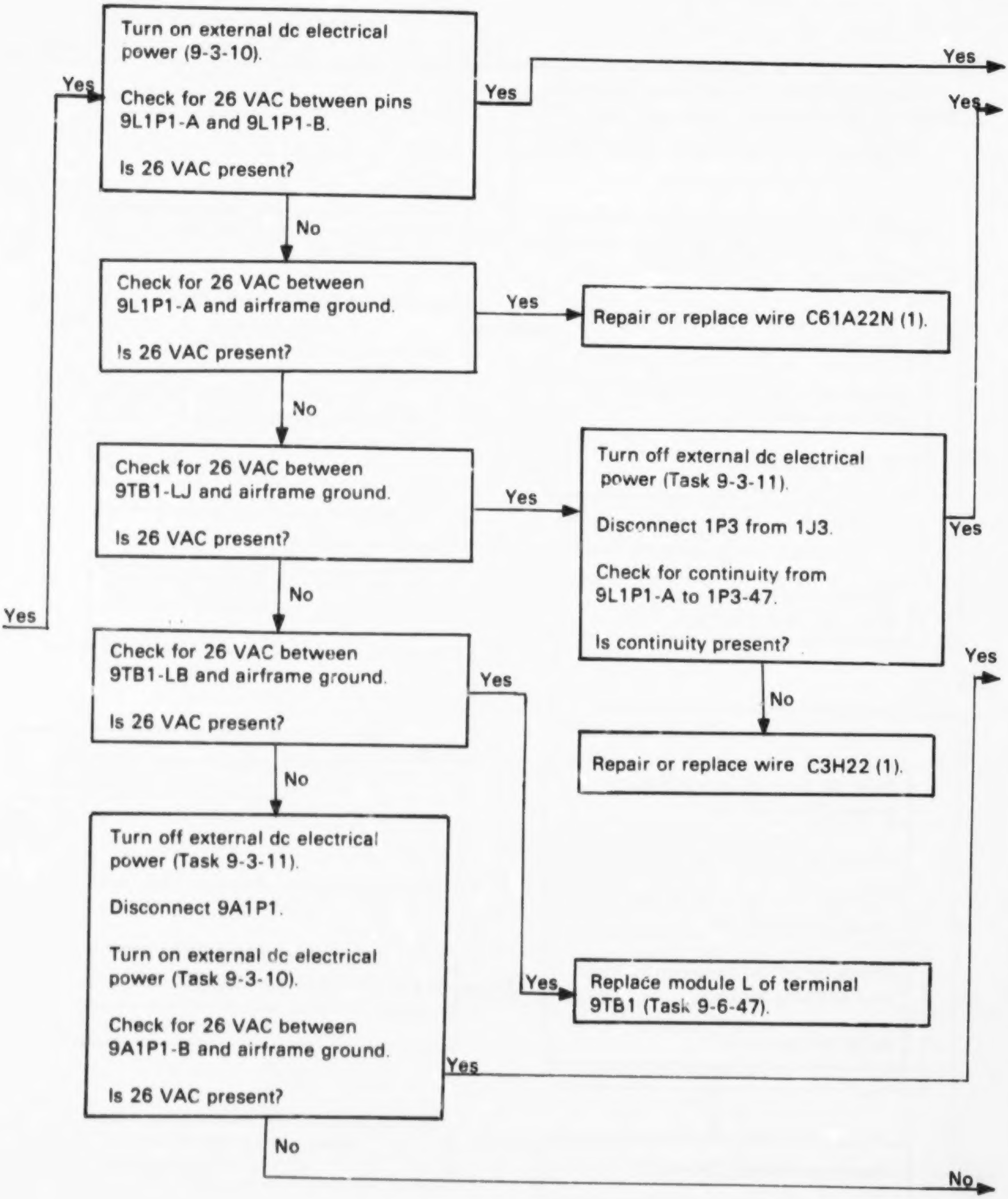
Is resistance correct?

Replace right cyclic actuator 9L1 (Task 7-9-10).

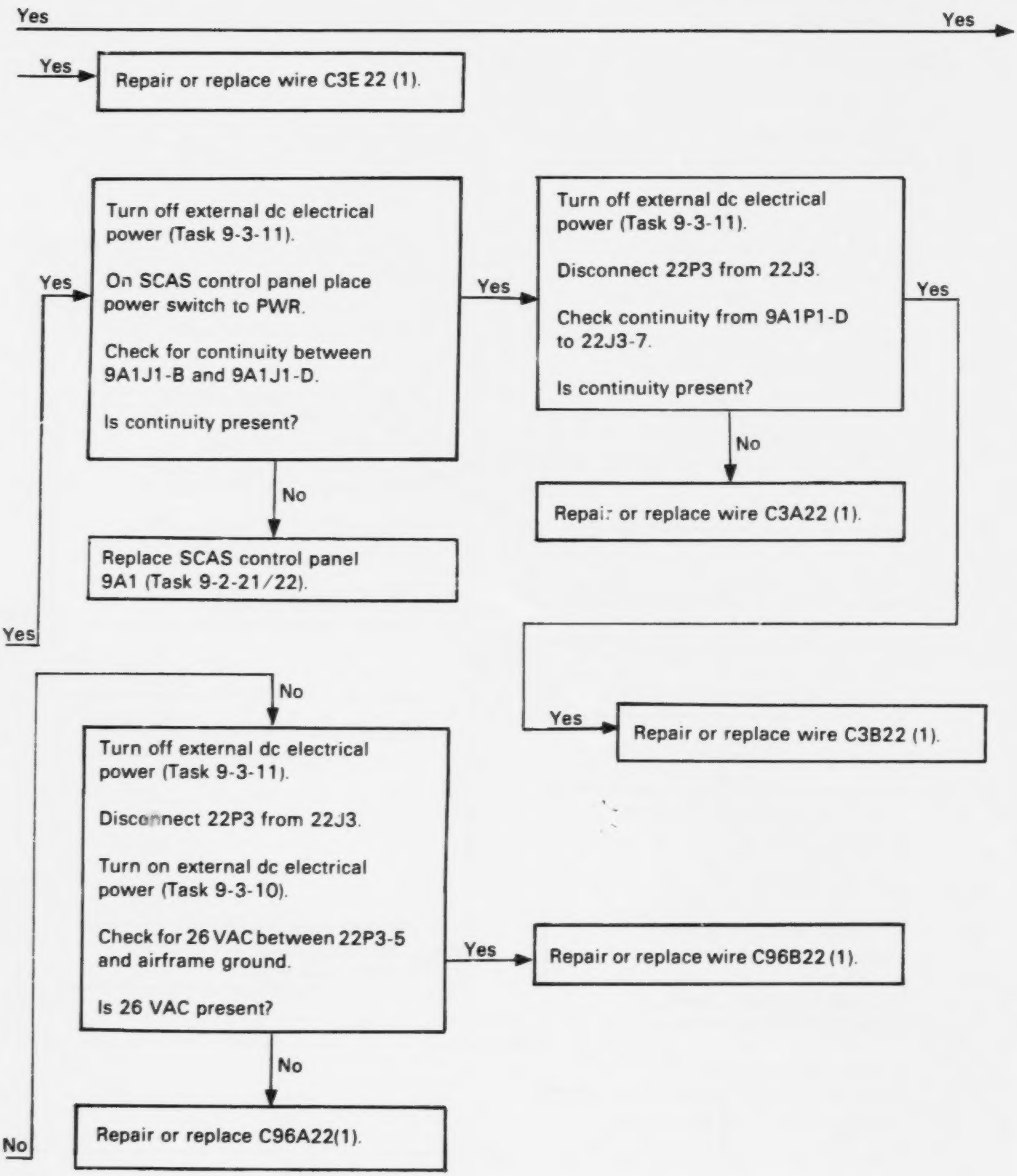
215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


Yes
Check for a resistance of 900 to 1100 ohms between pins 9L1J1-G and 3L1J1-H.
Is resistance correct?
No
Replace right cyclic actuator 9L1 (Task 7-9-10).
Yes
Check for a resistance of 5 to 10 ohms between pins 9L1J1-C and 9L1J1-D.
Is resistance correct?
No
Replace right cyclic actuator 9L1 (Task 7-9-10).
Yes
Yes
Check for a resistance of 120 to 150 ohms between pins 9L1J1-A and 9L1J1-B.
Is resistance correct?
Yes
No
Replace right cyclic actuator 9L1 (Task 7-9-10).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


Turn on external dc electrical power (9-3-10).
Check for 26 VAC between pins 9L1P1-A and 9L1P1-B.
Is 26 VAC present?
Yes
Yes
Yes
No
Check for 26 VAC between 9L1P1-A and airframe ground.
Is 26 VAC present?
Yes
Repair or replace wire C61A22N (1).
No
Check for 26 VAC between 9TB1-LJ and airframe ground.
Is 26 VAC present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 1P3 from 1J3.
Check for continuity from 9L1P1-A to 1P3-47.
Is continuity present?
Yes
No
Repair or replace wire C3H22 (1).
No
Yes
Check for 26 VAC between 9TB1-LB and airframe ground.
Is 26 VAC present?
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Disconnect 9A1P1.
Turn on external dc electrical power (Task 9-3-10).
Check for 26 VAC between 9A1P1-B and airframe ground.
Is 26 VAC present?
Yes
Replace module L of terminal 9TB1 (Task 9-6-47).
Yes
Yes
No
No

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Repair or replace wire C3E 22 (1).

Turn off external dc electrical power (Task 9-3-11).

On SCAS control panel place power switch to PWR.

Check for continuity between 9A1J1-B and 9A1J1-D.

Is continuity present?

Replace SCAS control panel 9A1 (Task 9-2-21/22).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 22P3 from 22J3.

Check continuity from 9A1P1-D to 22J3-7.

Is continuity present?

Repair or replace wire C3A22 (1).

Repair or replace wire C3B22 (1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 22P3 from 22J3.

Turn on external dc electrical power (Task 9-3-10).

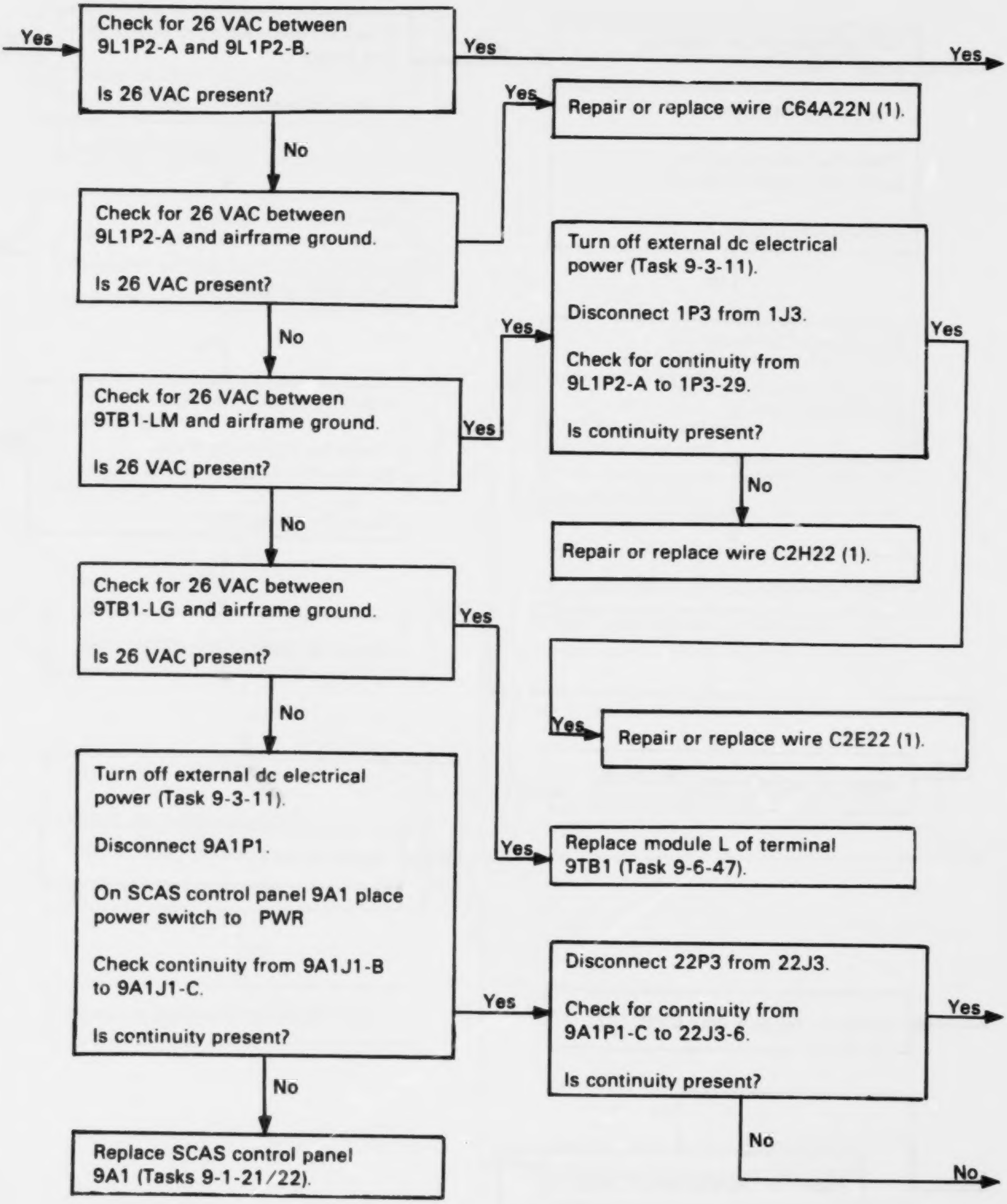
Check for 26 VAC between 22P3-5 and airframe ground.

Is 26 VAC present?

Repair or replace wire C96B22 (1).

Repair or replace C96A22(1).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Check for 26 VAC between 9L1P2-A and 9L1P2-B.

Is 26 VAC present?

Repair or replace wire C64A22N (1).

Check for 26 VAC between 9L1P2-A and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 1P3 from 1J3.

Check for continuity from 9L1P2-A to 1P3-29.

Is continuity present?

Check for 26 VAC between 9TB1-LM and airframe ground.

Is 26 VAC present?

Repair or replace wire C2H22 (1).

Check for 26 VAC between 9TB1-LG and airframe ground.

Is 26 VAC present?

Repair or replace wire C2E22 (1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

On SCAS control panel 9A1 place power switch to PWR

Check continuity from 9A1J1-B to 9A1J1-C.

Is continuity present?

Replace module L of terminal 9TB1 (Task 9-6-47).

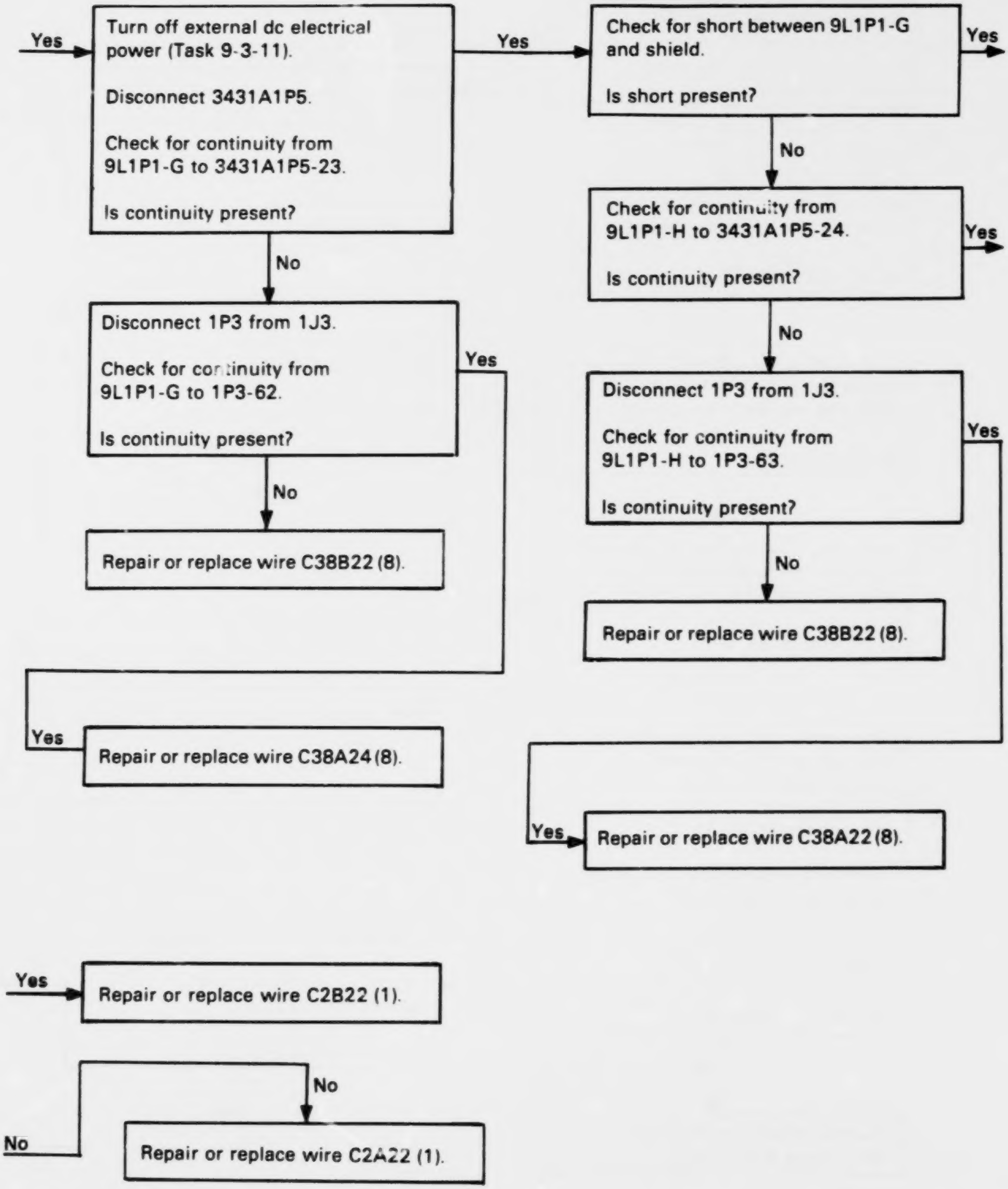
Disconnect 22P3 from 22J3.

Check for continuity from 9A1P1-C to 22J3-6.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9L1P1-G to 3431A1P5-23.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L1P1-G to 1P3-62.

Is continuity present?

Repair or replace wire C38B22 (8).

Repair or replace wire C38A24 (8).

Check for short between 9L1P1-G and shield.

Is short present?

Check for continuity from 9L1P1-H to 3431A1P5-24.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L1P1-H to 1P3-63.

Is continuity present?

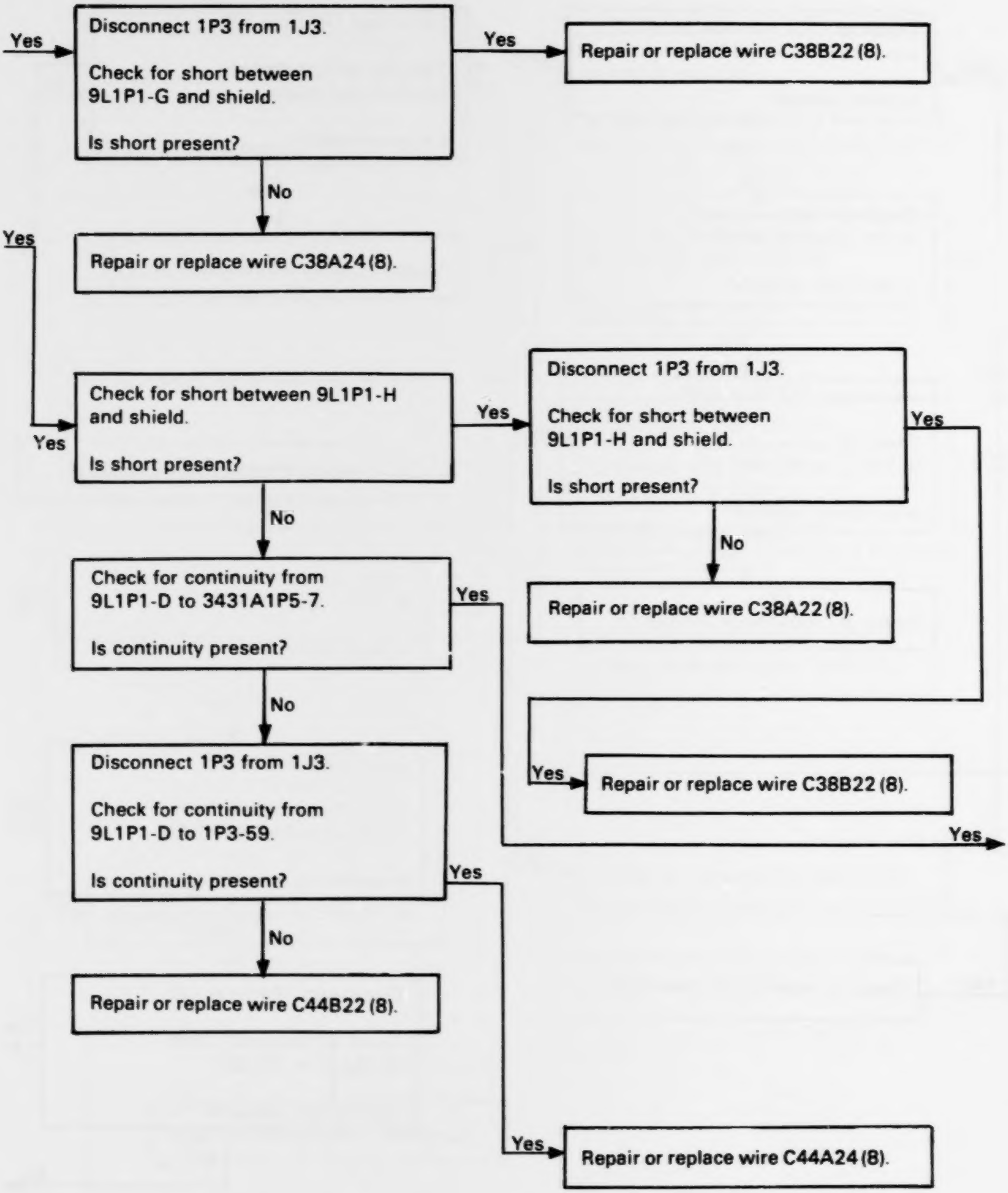
Repair or replace wire C38B22 (8).

Repair or replace wire C38A22 (8).

Repair or replace wire C2B22 (1).

Repair or replace wire C2A22 (1).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L1P1-G and shield.

Is short present?

Repair or replace wire C38B22 (8).

Repair or replace wire C38A24 (8).

Check for short between 9L1P1-H and shield.

Is short present?

Disconnect 1P3 from 1J3.

Check for short between 9L1P1-H and shield.

Is short present?

Repair or replace wire C38A22 (8).

Check for continuity from 9L1P1-D to 3431A1P5-7.

Is continuity present?

Repair or replace wire C38B22 (8).

Disconnect 1P3 from 1J3.

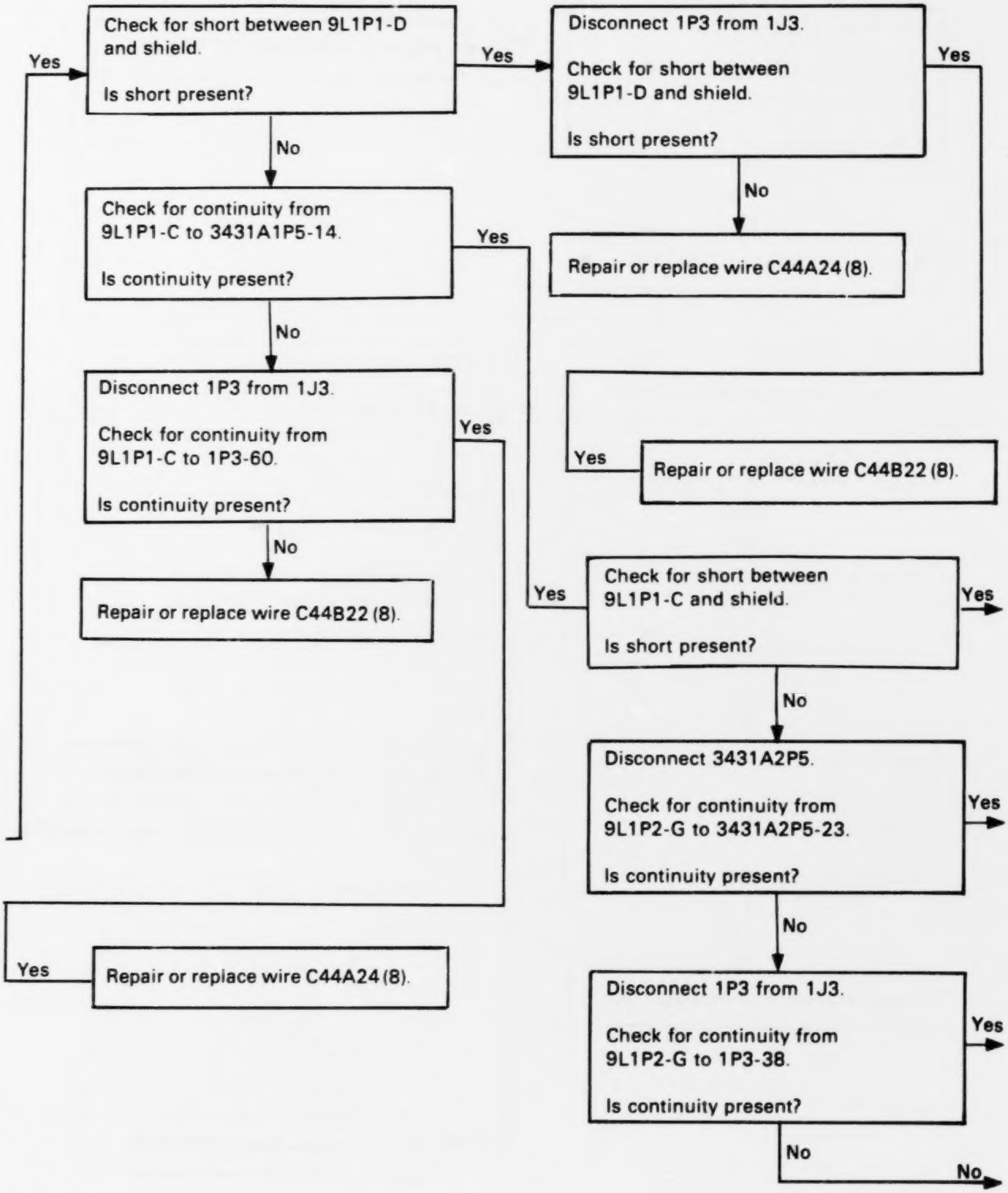
Check for continuity from 9L1P1-D to 1P3-59.

Is continuity present?

Repair or replace wire C44B22 (8).

Repair or replace wire C44A24 (8).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Check for short between 9L1P1-D and shield.

Is short present?

Disconnect 1P3 from 1J3.

Check for short between 9L1P1-D and shield.

Is short present?

Repair or replace wire C44A24 (8).

Repair or replace wire C44B22 (8).

Check for continuity from 9L1P1-C to 3431A1P5-14.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L1P1-C to 1P3-60.

Is continuity present?

Repair or replace wire C44B22 (8).

Check for short between 9L1P1-C and shield.

Is short present?

Disconnect 3431A2P5.

Check for continuity from 9L1P2-G to 3431A2P5-23.

Is continuity present?

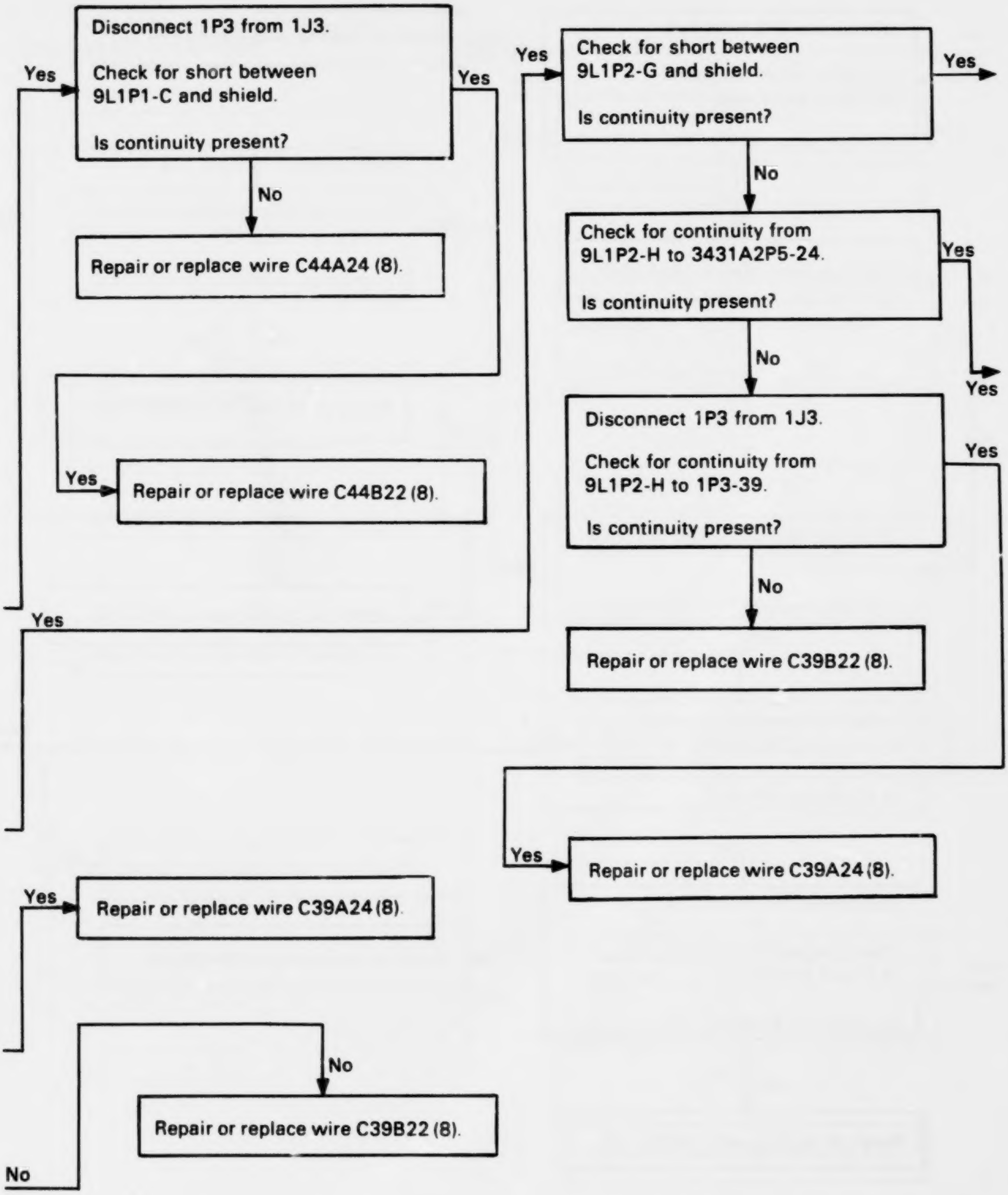
Disconnect 1P3 from 1J3.

Check for continuity from 9L1P2-G to 1P3-38.

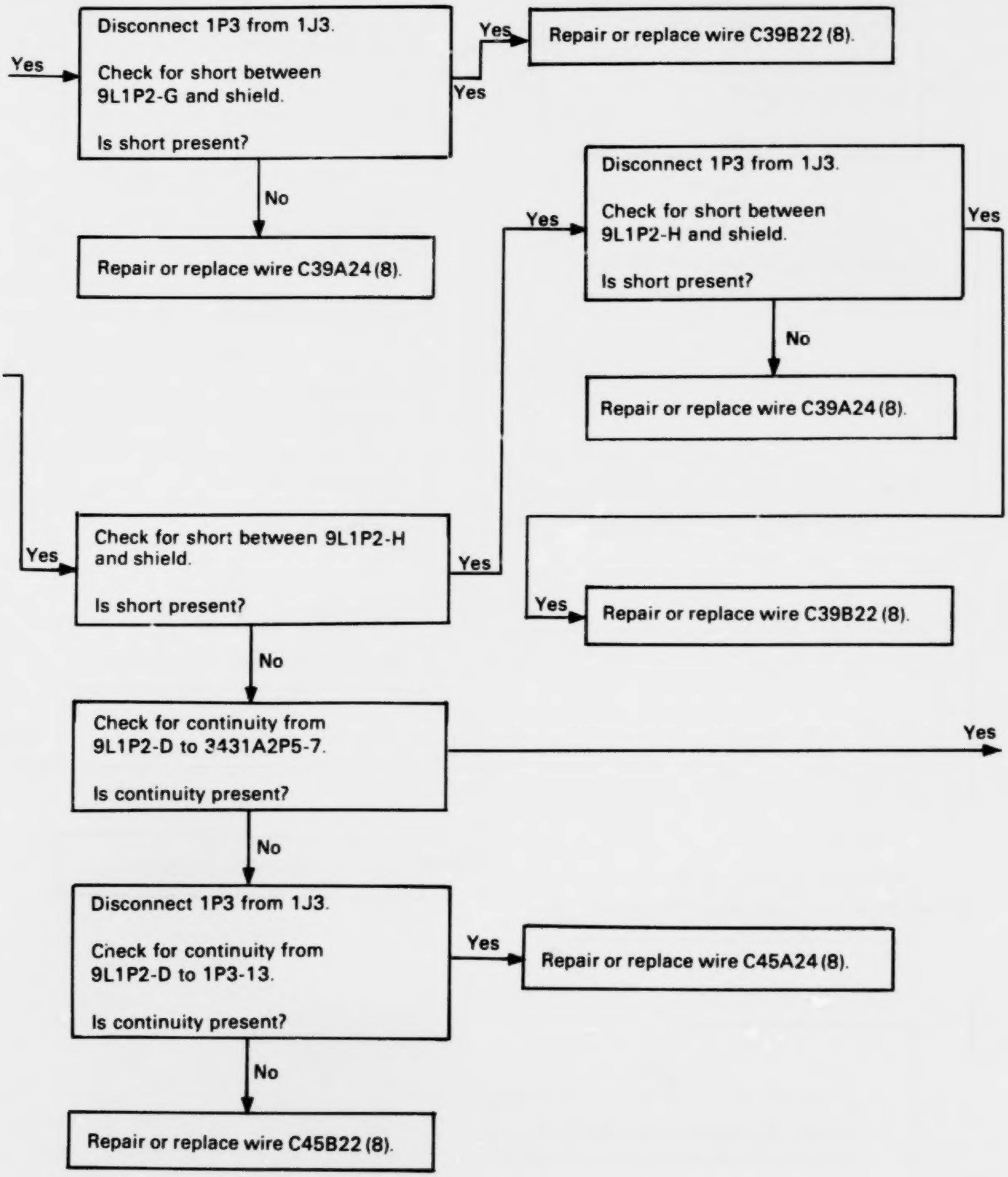
Is continuity present?

Repair or replace wire C44A24 (8).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


Yes
Disconnect 1P3 from 1J3.
Check for short between 9L1P1-C and shield.
Is continuity present?
Yes
No
Repair or replace wire C44A24 (8).
Yes
Repair or replace wire C44B22 (8).
Yes
Yes
Check for short between 9L1P2-G and shield.
Is continuity present?
Yes
No
Check for continuity from 9L1P2-H to 3431A2P5-24.
Is continuity present?
Yes
Yes
No
Disconnect 1P3 from 1J3.
Check for continuity from 9L1P2-H to 1P3-39.
Is continuity present?
Yes
No
Repair or replace wire C39B22 (8).
Yes
Repair or replace wire C39A24 (8).
Yes
Repair or replace wire C39A24 (8).
No
Repair or replace wire C39B22 (8).
No

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L1P2-G and shield.

Is short present?

Repair or replace wire C39B22 (8).

Repair or replace wire C39A24 (8).

Disconnect 1P3 from 1J3.

Check for short between 9L1P2-H and shield.

Is short present?

Repair or replace wire C39A24 (8).

Check for short between 9L1P2-H and shield.

Is short present?

Repair or replace wire C39B22 (8).

Check for continuity from 9L1P2-D to 3431A2P5-7.

Is continuity present?

Disconnect 1P3 from 1J3.

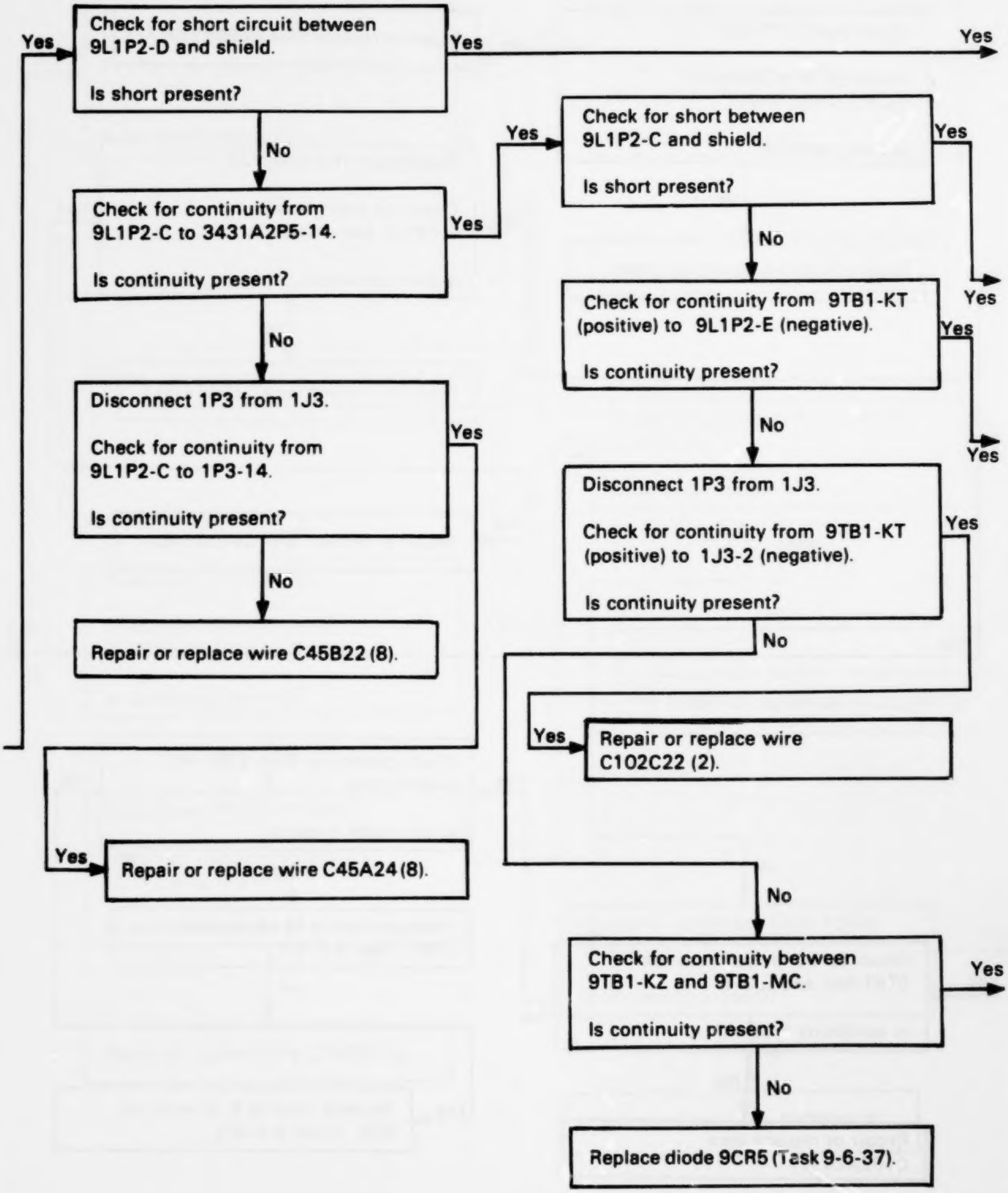
Check for continuity from 9L1P2-D to 1P3-13.

Is continuity present?

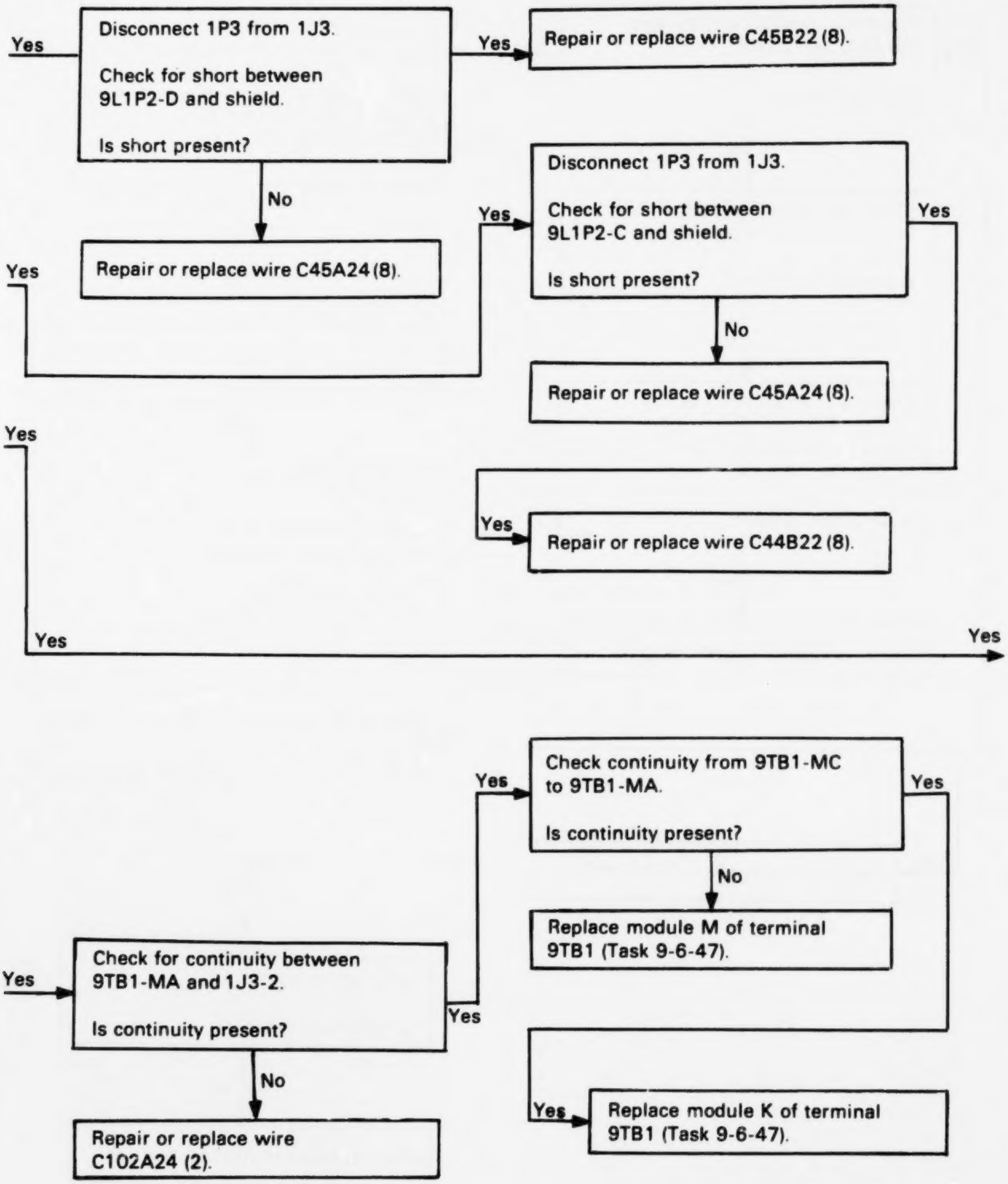
Repair or replace wire C45A24 (8).

Repair or replace wire C45B22 (8).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


Yes
Check for short circuit between 9L1P2-D and shield.
Is short present?
Yes
Yes
No
Check for continuity from 9L1P2-C to 3431A2P5-14.
Is continuity present?
Yes
Yes
Check for short between 9L1P2-C and shield.
Is short present?
Yes
No
Yes
No
Check for continuity from 9TB1-KT (positive) to 9L1P2-E (negative).
Is continuity present?
Yes
Disconnect 1P3 from 1J3.
Check for continuity from 9L1P2-C to 1P3-14.
Is continuity present?
Yes
No
Yes
Disconnect 1P3 from 1J3.
Check for continuity from 9TB1-KT (positive) to 1J3-2 (negative).
Is continuity present?
Yes
No
Repair or replace wire C45B22 (8).
No
Yes
Repair or replace wire C102C22 (2).
Yes
Repair or replace wire C45A24 (8).
No
Check for continuity between 9TB1-KZ and 9TB1-MC.
Is continuity present?
Yes
No
Replace diode 9CR5 (Task 9-6-37).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L1P2-D and shield.

Is short present?

Repair or replace wire C45B22 (8).

Repair or replace wire C45A24 (8).

Disconnect 1P3 from 1J3.

Check for short between 9L1P2-C and shield.

Is short present?

Repair or replace wire C45A24 (8).

Repair or replace wire C44B22 (8).

Check for continuity between 9TB1-MA and 1J3-2.

Is continuity present?

Repair or replace wire C102A24 (2).

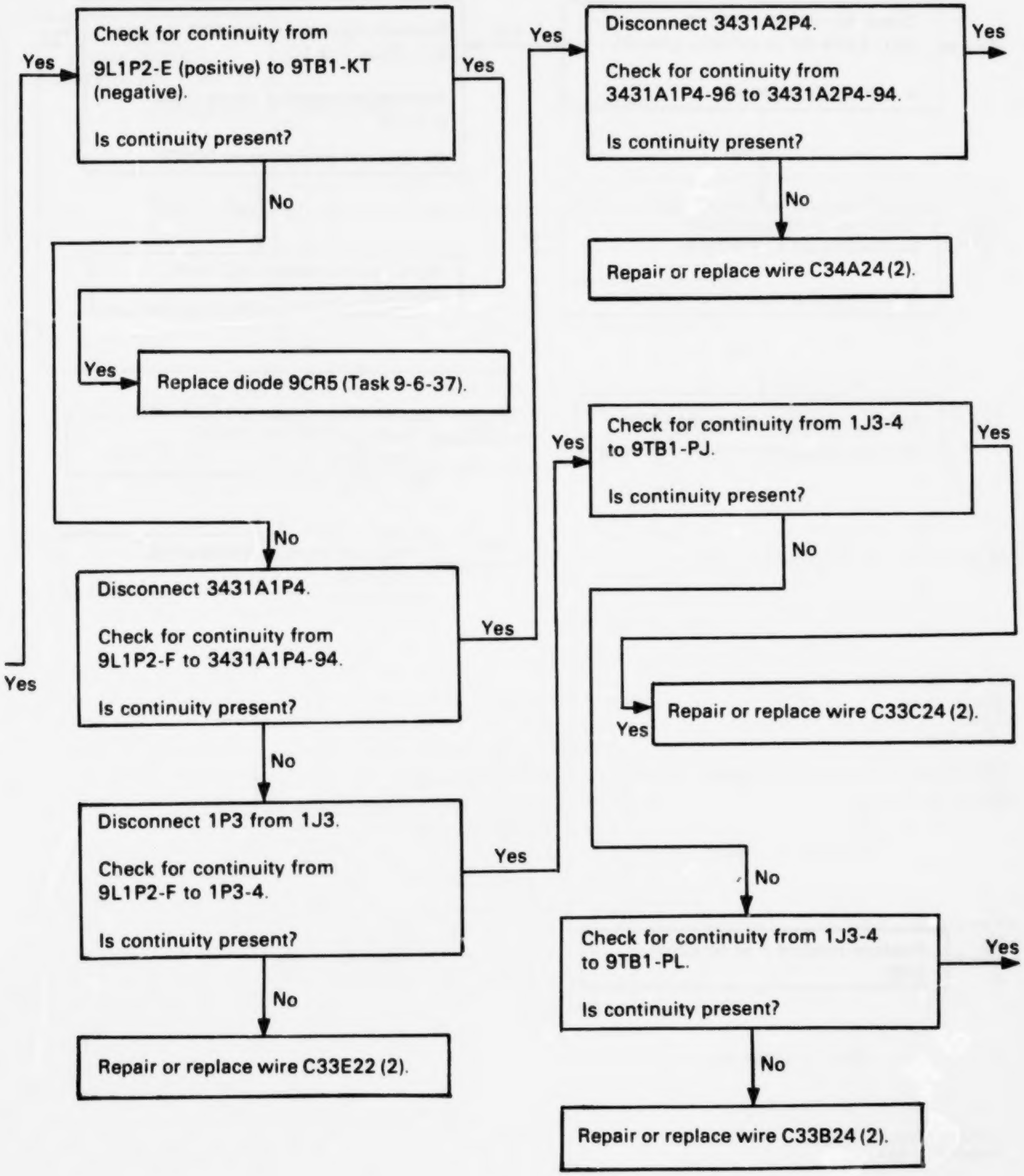
Check continuity from 9TB1-MC to 9TB1-MA.

Is continuity present?

Replace module M of terminal 9TB1 (Task 9-6-47).

Replace module K of terminal 9TB1 (Task 9-6-47).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Check for continuity from 9L1P2-E (positive) to 9TB1-KT (negative).

Is continuity present?

Replace diode 9CR5 (Task 9-6-37).

Disconnect 3431A1P4.

Check for continuity from 9L1P2-F to 3431A1P4-94.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L1P2-F to 1P3-4.

Is continuity present?

Repair or replace wire C33E22 (2).

Disconnect 3431A2P4.

Check for continuity from 3431A1P4-96 to 3431A2P4-94.

Is continuity present?

Repair or replace wire C34A24 (2).

Check for continuity from 1J3-4 to 9TB1-PJ.

Is continuity present?

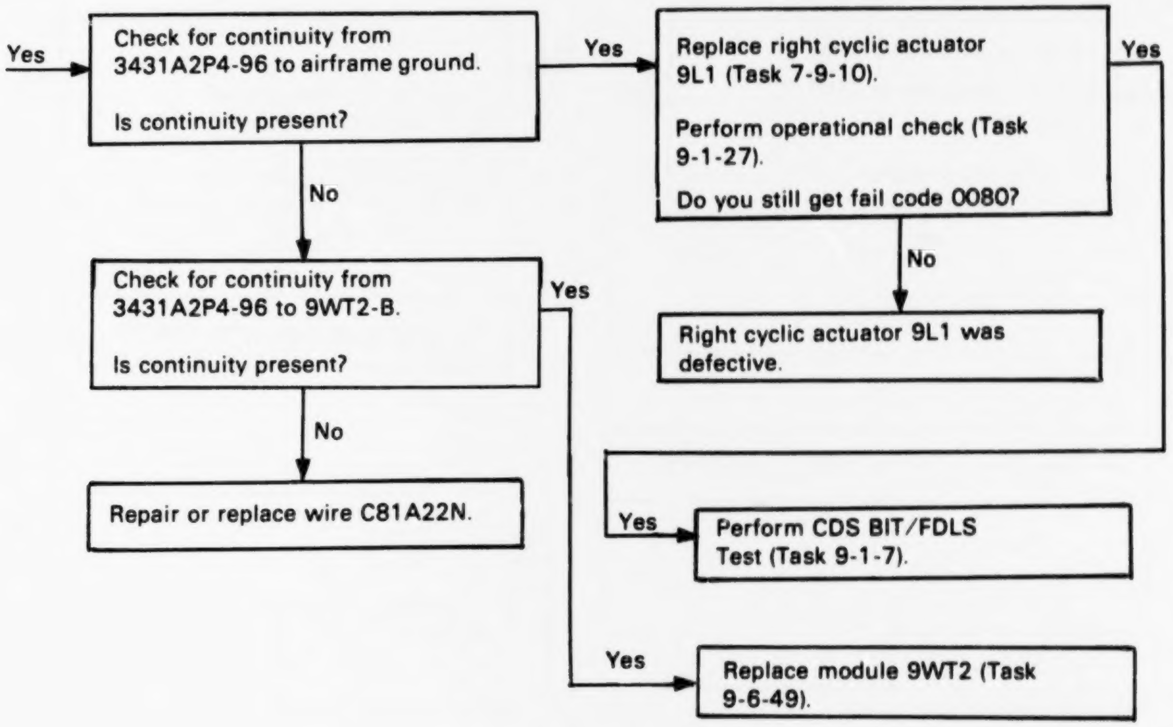
Repair or replace wire C33C24 (2).

Check for continuity from 1J3-4 to 9TB1-PL.

Is continuity present?

Repair or replace wire C33B24 (2).

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)



Check for continuity from 3431A2P4-96 to airframe ground.

Is continuity present?

Replace right cyclic actuator 9L1 (Task 7-9-10).

Perform operational check (Task 9-1-27).

Do you still get fail code 0080?

Check for continuity from 3431A2P4-96 to 9WT2-B.

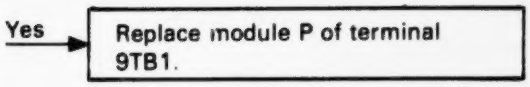
Is continuity present?

Right cyclic actuator 9L1 was defective.

Repair or replace wire C81A22N.

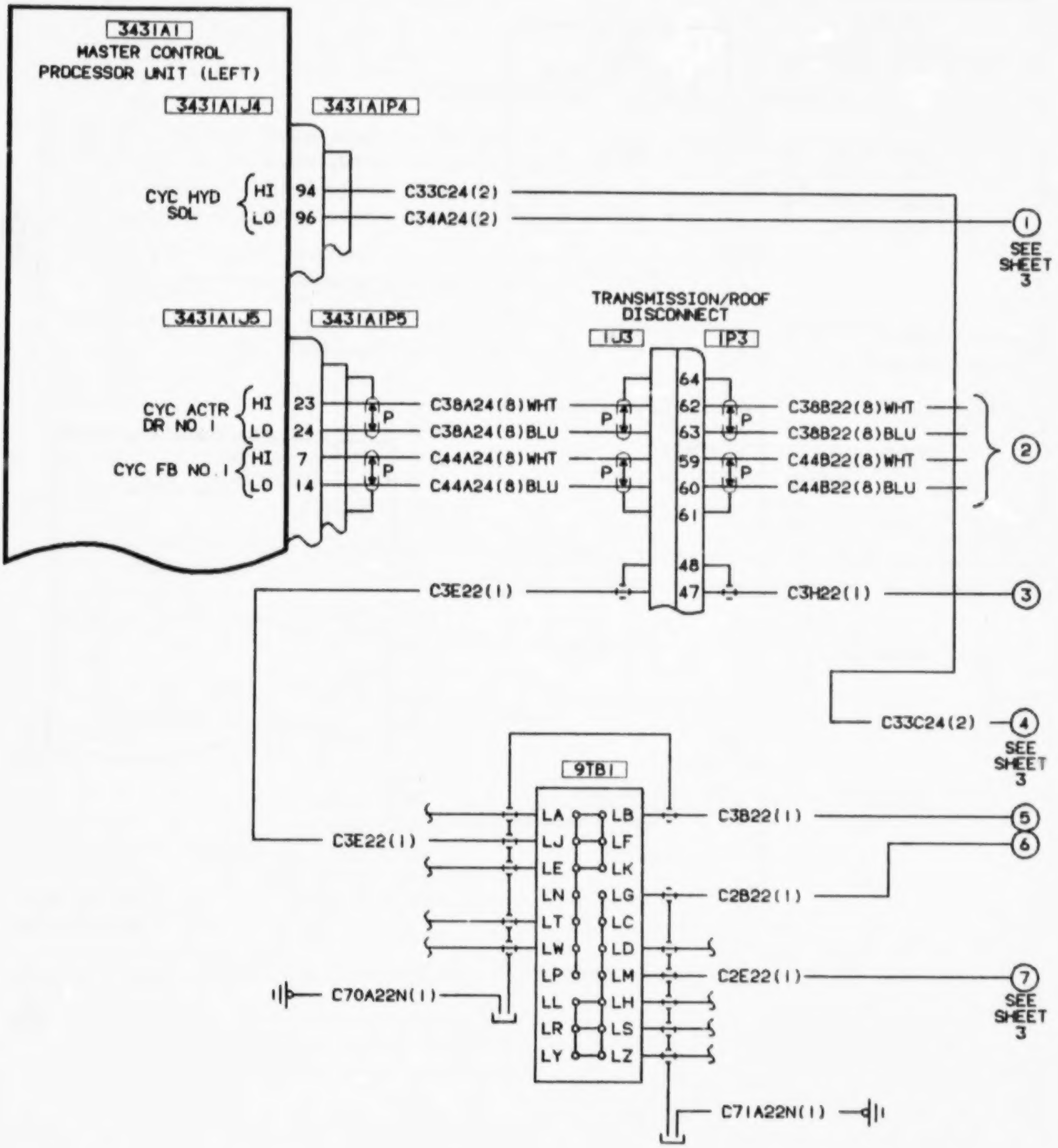
Perform CDS BIT/FDLS Test (Task 9-1-7).

Replace module 9WT2 (Task 9-6-49).



Replace module P of terminal 9TB1.

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


343IAI
MASTER CONTROL PROCESSOR UNIT (LEFT)
343IAIJ4
343IAIP4
CYC HYD SOL
HI 94
LO 96
C33C24(2)
C34A24(2)
① SEE SHEET 3
343IAIJ5
343IAIP5
CYC ACTR DR NO I
HI 23
LO 24
CYC FB NO. I
HI 7
LO 14
C38A24(8)WHT
C38A24(8)BLU
C44A24(8)WHT
C44A24(8)BLU
P
TRANSMISSION/ROOF DISCONNECT
IJ3
IP3
64
62
63
59
60
61
48
47
C38B22(8)WHT
C38B22(8)BLU
C44B22(8)WHT
C44B22(8)BLU
②
C3E22(I)
C3H22(I)
③
C33C24(2)
④ SEE SHEET 3
9TBI
LA LB
LJ LF
LE LK
LN LG
LT LC
LW LD
LP LM
LL LH
LR LS
LY LZ
C3E22(I)
C3B22(I)
⑤
⑥
C2B22(I)
C2E22(I)
⑦ SEE SHEET 3
C70A22N(I)
C71A22N(I)

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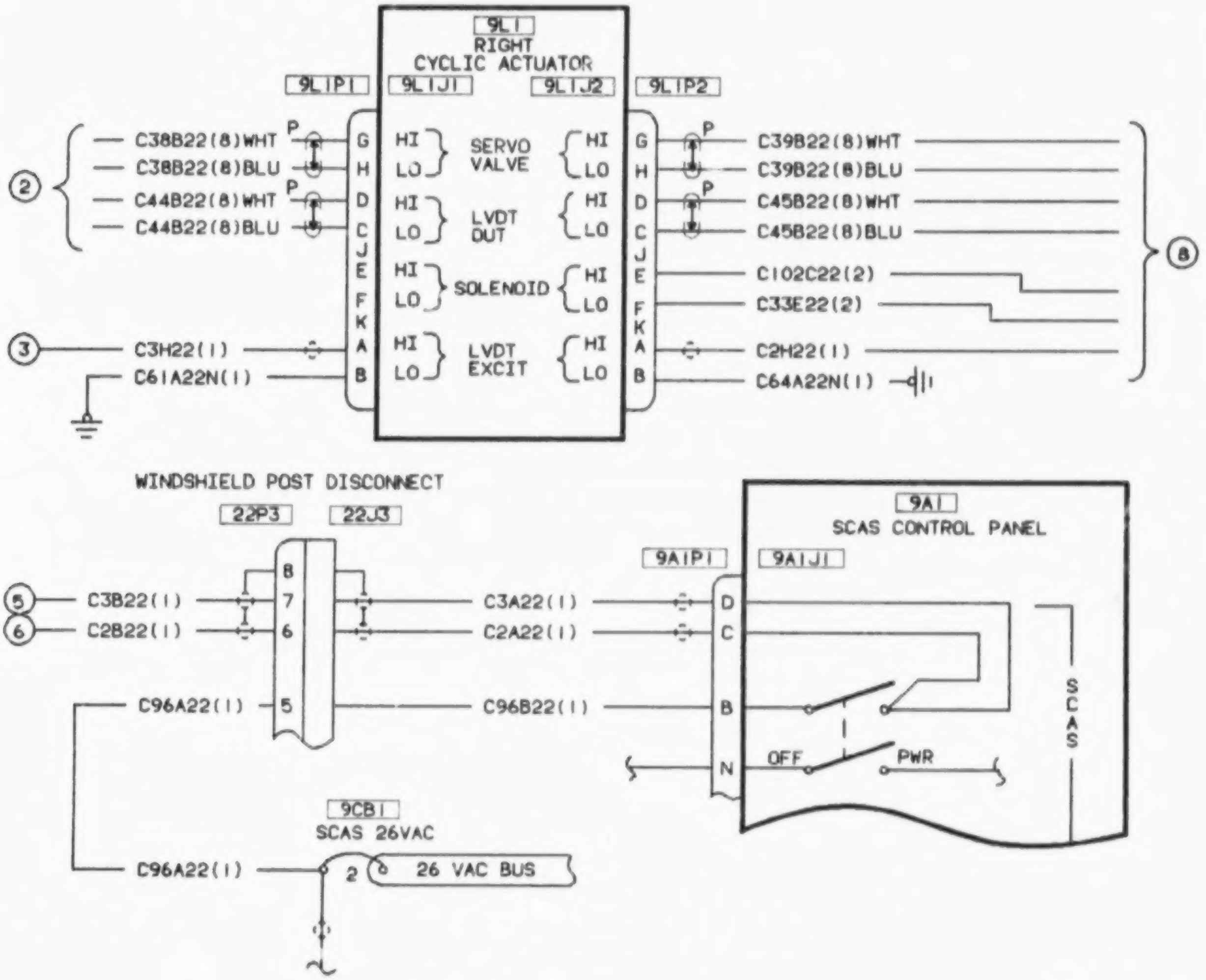
406-475-606A

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


9L1
RIGHT CYCLIC ACTUATOR
9L1P1
9L1J1
9L1J2
9L1P2
C38B22(8)WHT
C38B22(8)BLU
C44B22(8)WHT
C44B22(8)BLU
P
G
H
D
C
J
E
F
K
A
B
HI
LO
SERVO VALVE
LVDT OUT
SOLENOID
LVDT EXCIT
C39B22(8)WHT
C39B22(8)BLU
C45B22(8)WHT
C45B22(8)BLU
C102C22(2)
C33E22(2)
C2H22(1)
C64A22N(1)
C3H22(1)
C61A22N(1)
②
③
⑧
WINDSHIELD POST DISCONNECT
22P3
22J3
⑤
⑥
C3B22(1)
C2B22(1)
C96A22(1)
8
7
6
5
C3A22(1)
C2A22(1)
C96B22(1)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
D
C
B
N
OFF
PWR
SCAS
9CB1
SCAS 26VAC
C96A22(1)
2
26 VAC BUS

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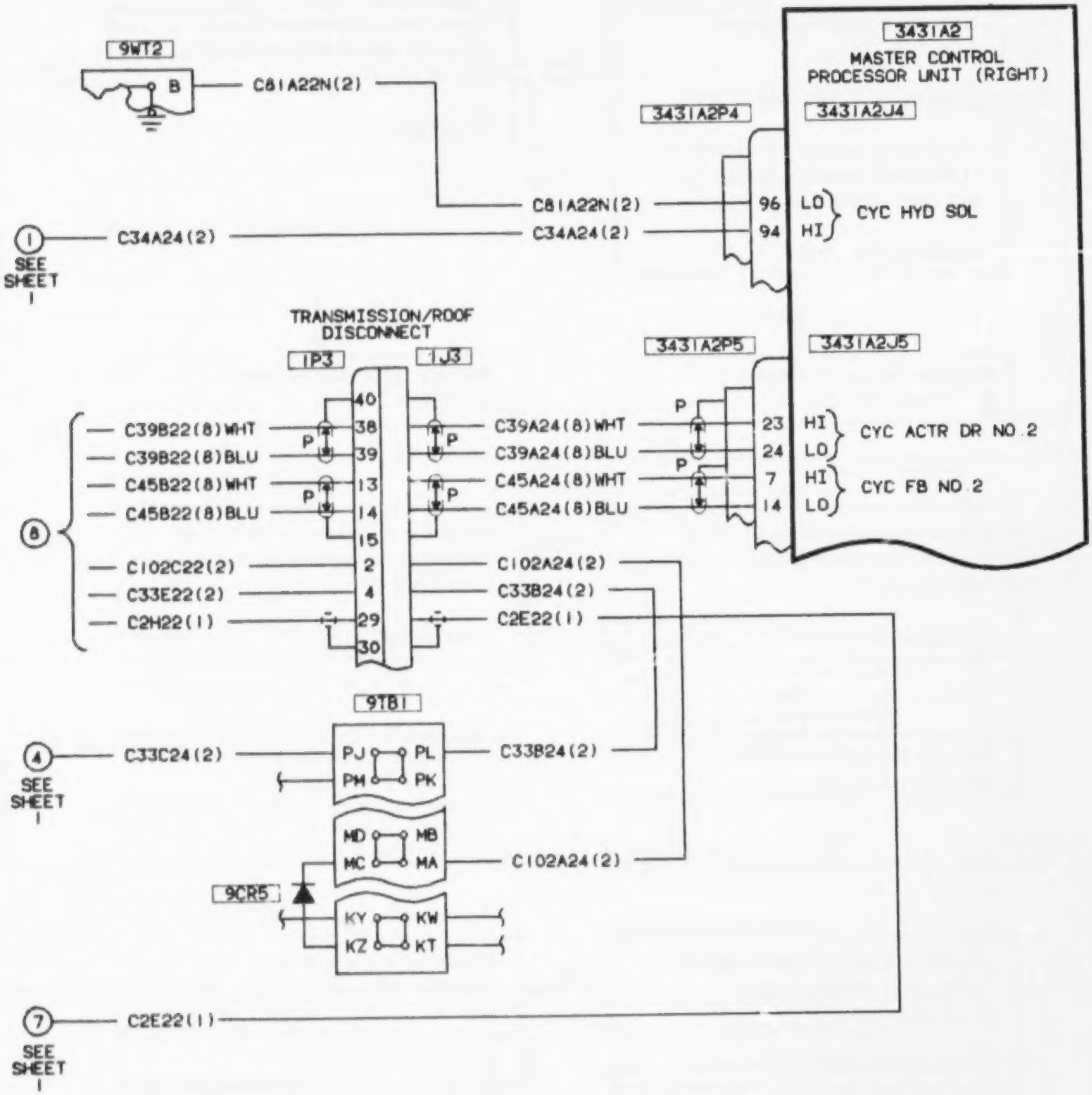
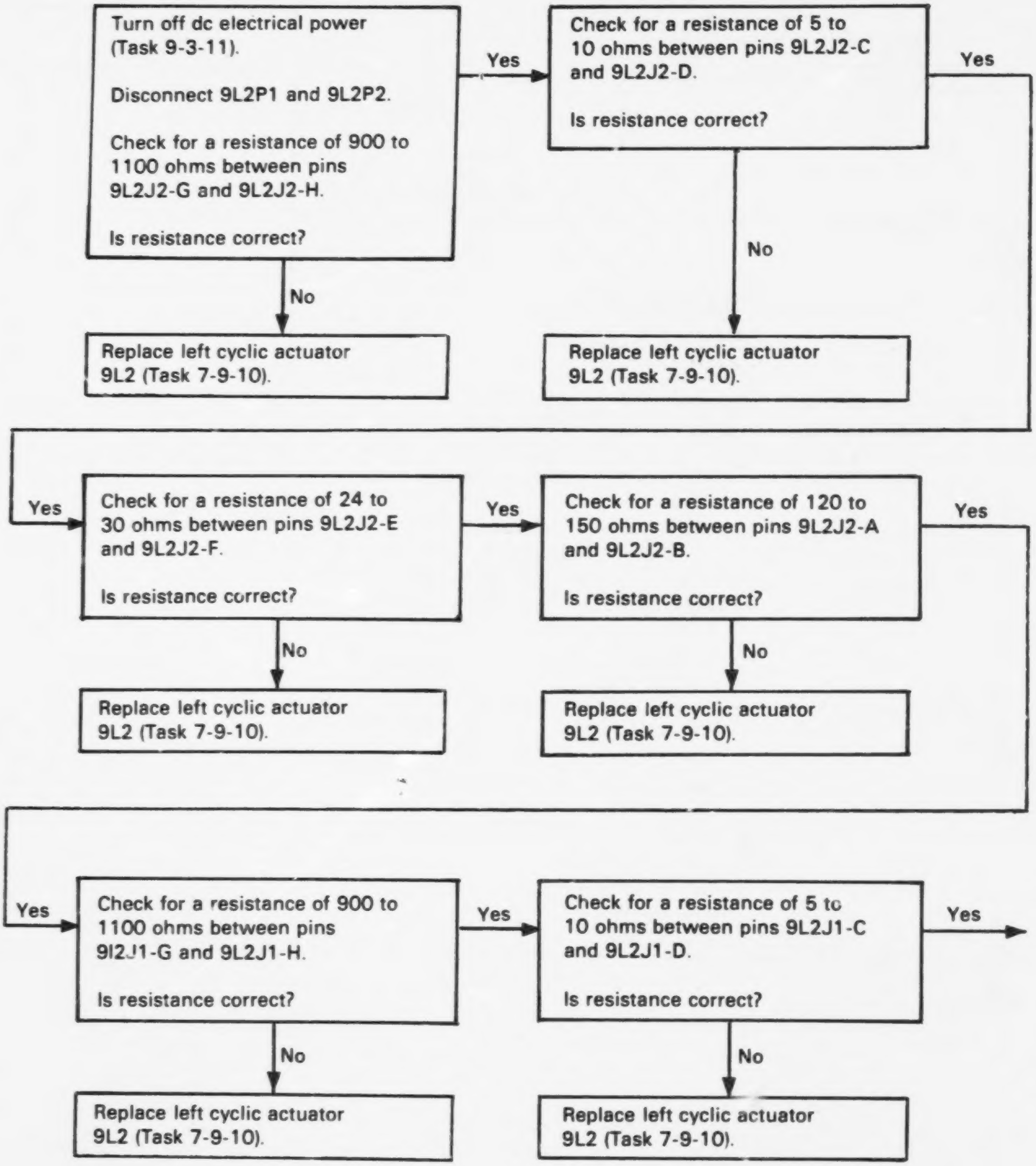
406-475-606A

215. ERROR CODE 0080 WORD 1 RIGHT CYCLIC ACTUATOR FAIL (CONT)


3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P4
3431A2J4
9WT2
B
C81A22N(2)
C81A22N(2)
96 LO
94 HI
CYC HYD SOL
C34A24(2)
C34A24(2)
1
SEE SHEET 1
TRANSMISSION/ROOF DISCONNECT
1P3
1J3
3431A2P5
3431A2J5
40
38
39
13
14
15
2
4
29
30
P
C39B22(8)WHT
C39B22(8)BLU
C45B22(8)WHT
C45B22(8)BLU
C102C22(2)
C33E22(2)
C2H22(1)
8
C39A24(8)WHT
C39A24(8)BLU
C45A24(8)WHT
C45A24(8)BLU
C102A24(2)
C33B24(2)
C2E22(1)
23 HI
24 LO
CYC ACTR DR NO.2
7 HI
14 LO
CYC FB NO.2
9TB1
4
SEE SHEET 1
C33C24(2)
PJ
PL
PM
PK
C33B24(2)
MD
MB
MC
MA
C102A24(2)
9CR5
KY
KW
KZ
KT
7
SEE SHEET 1
C2E22(1)

406475-240-3
406-475-606A

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL



Turn off dc electrical power (Task 9-3-11).

Disconnect 9L2P1 and 9L2P2.

Check for a resistance of 900 to 1100 ohms between pins 9L2J2-G and 9L2J2-H.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 5 to 10 ohms between pins 9L2J2-C and 9L2J2-D.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 24 to 30 ohms between pins 9L2J2-E and 9L2J2-F.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 120 to 150 ohms between pins 9L2J2-A and 9L2J2-B.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 900 to 1100 ohms between pins 9l2J1-G and 9L2J1-H.

Is resistance correct?

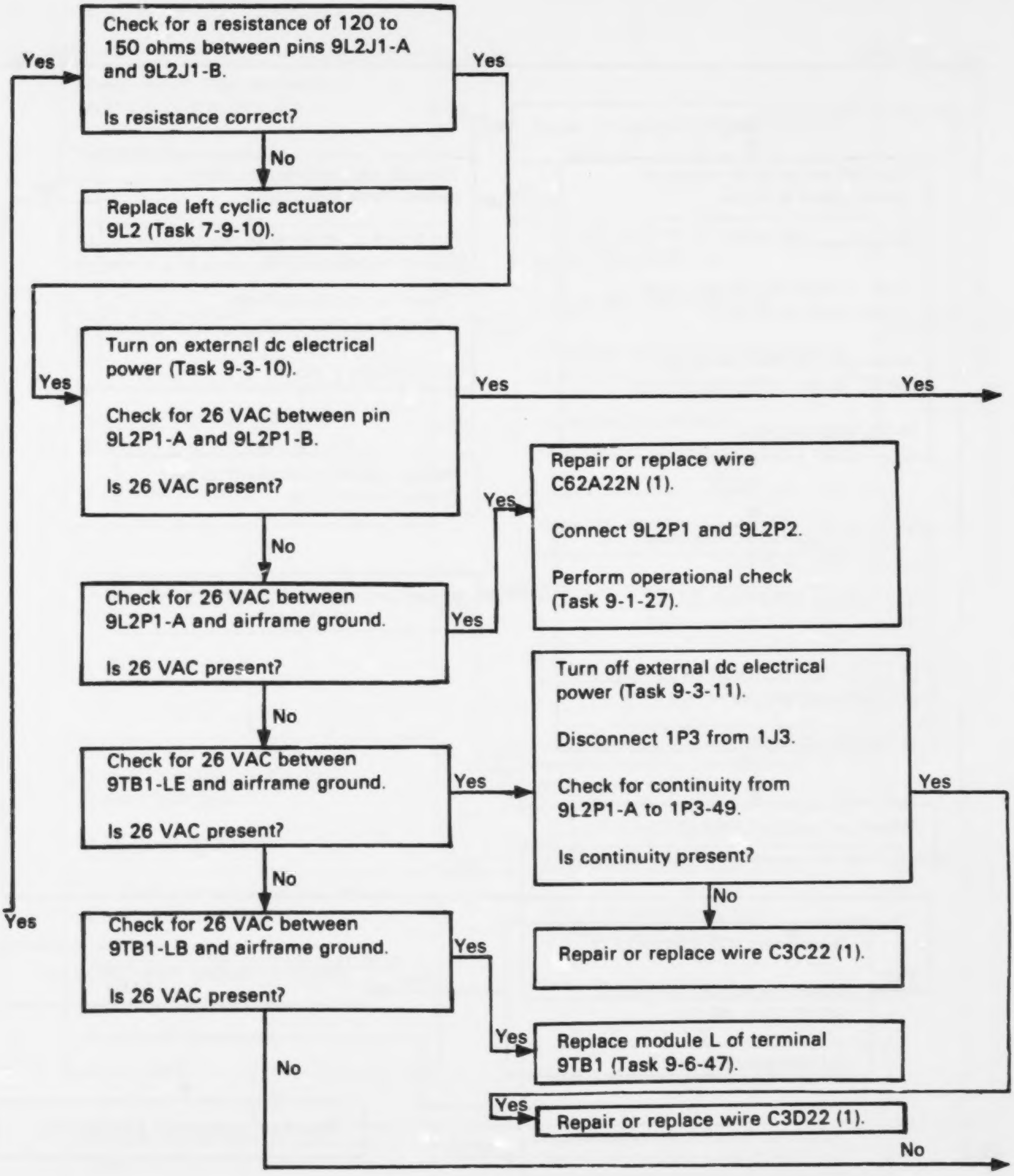
Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 5 to 10 ohms between pins 9L2J1-C and 9L2J1-D.

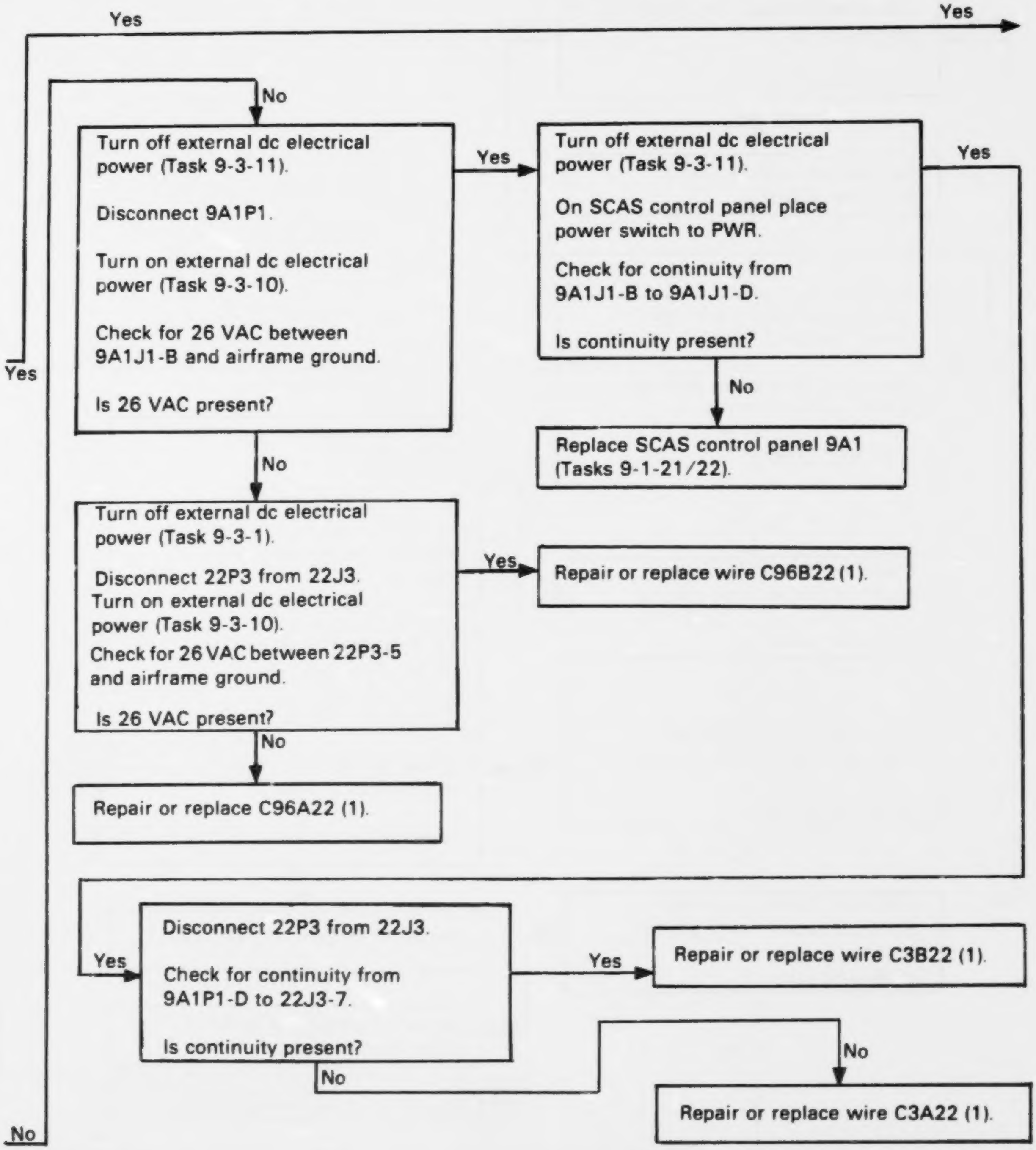
Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)


Check for a resistance of 120 to 150 ohms between pins 9L2J1-A and 9L2J1-B.
Is resistance correct?
Yes
Yes
No
Replace left cyclic actuator 9L2 (Task 7-9-10).
Yes
Turn on external dc electrical power (Task 9-3-10).
Check for 26 VAC between pin 9L2P1-A and 9L2P1-B.
Is 26 VAC present?
Yes
Yes
No
Check for 26 VAC between 9L2P1-A and airframe ground.
Is 26 VAC present?
Yes
Yes
Repair or replace wire C62A22N (1).
Connect 9L2P1 and 9L2P2.
Perform operational check (Task 9-1-27).
No
Check for 26 VAC between 9TB1-LE and airframe ground.
Is 26 VAC present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 1P3 from 1J3.
Check for continuity from 9L2P1-A to 1P3-49.
Is continuity present?
Yes
No
Repair or replace wire C3C22 (1).
No
Yes
Check for 26 VAC between 9TB1-LB and airframe ground.
Is 26 VAC present?
Yes
Yes
Replace module L of terminal 9TB1 (Task 9-6-47).
No
Yes
Repair or replace wire C3D22 (1).
No

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9A1J1-B and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

On SCAS control panel place power switch to PWR.

Check for continuity from 9A1J1-B to 9A1J1-D.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Turn off external dc electrical power (Task 9-3-1).

Disconnect 22P3 from 22J3.

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 22P3-5 and airframe ground.

Is 26 VAC present?

Repair or replace wire C96B22 (1).

Repair or replace C96A22 (1).

Disconnect 22P3 from 22J3.

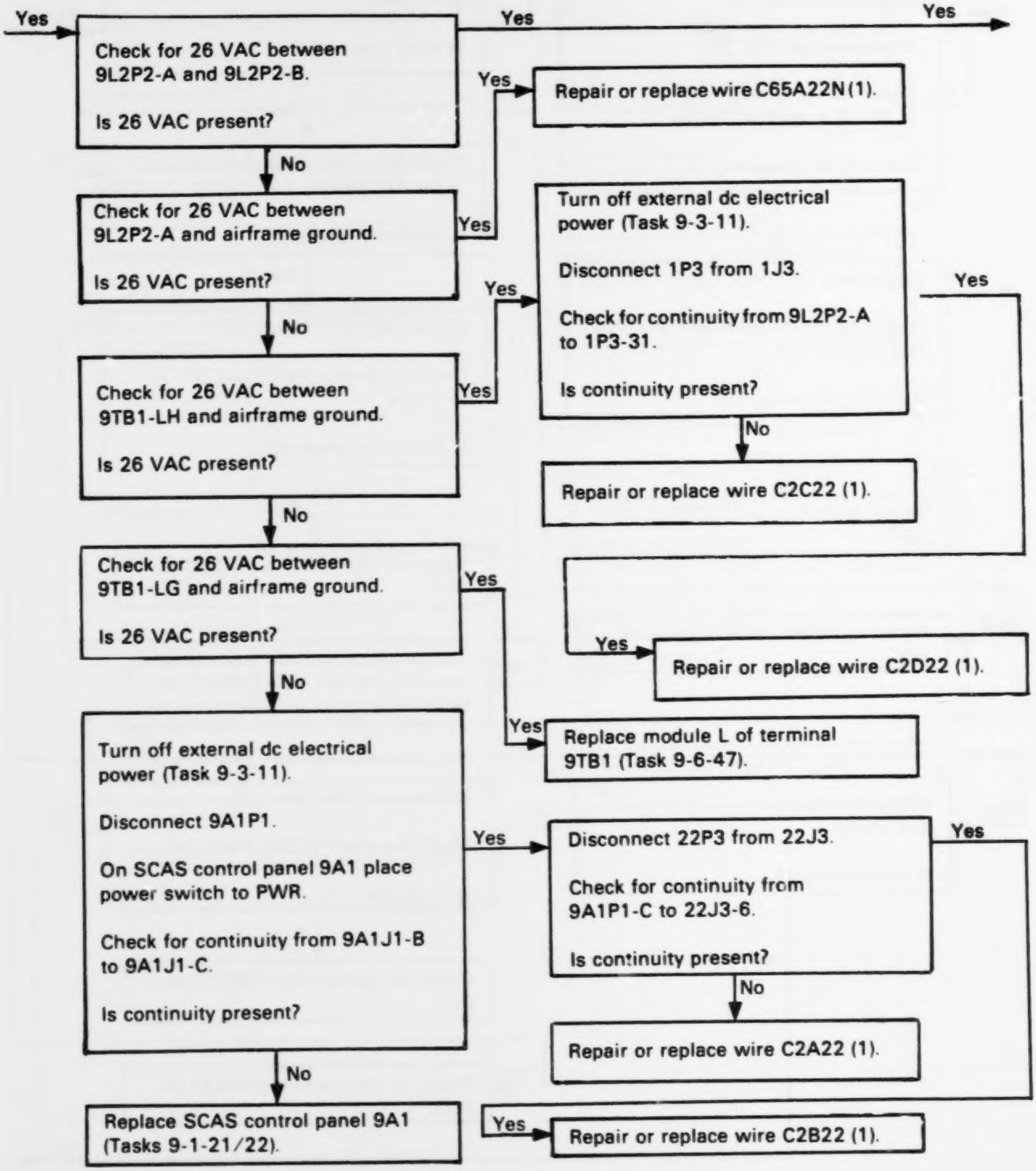
Check for continuity from 9A1P1-D to 22J3-7.

Is continuity present?

Repair or replace wire C3B22 (1).

Repair or replace wire C3A22 (1).

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Check for 26 VAC between 9L2P2-A and 9L2P2-B.

Is 26 VAC present?

Repair or replace wire C65A22N (1).

Check for 26 VAC between 9L2P2-A and airframe ground.

Is 26 VAC present?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 1P3 from 1J3.

Check for continuity from 9L2P2-A to 1P3-31.

Is continuity present?

Check for 26 VAC between 9TB1-LH and airframe ground.

Is 26 VAC present?

Repair or replace wire C2C22 (1).

Check for 26 VAC between 9TB1-LG and airframe ground.

Is 26 VAC present?

Repair or replace wire C2D22 (1).

Replace module L of terminal 9TB1 (Task 9-6-47).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

On SCAS control panel 9A1 place power switch to PWR.

Check for continuity from 9A1J1-B to 9A1J1-C.

Is continuity present?

Disconnect 22P3 from 22J3.

Check for continuity from 9A1P1-C to 22J3-6.

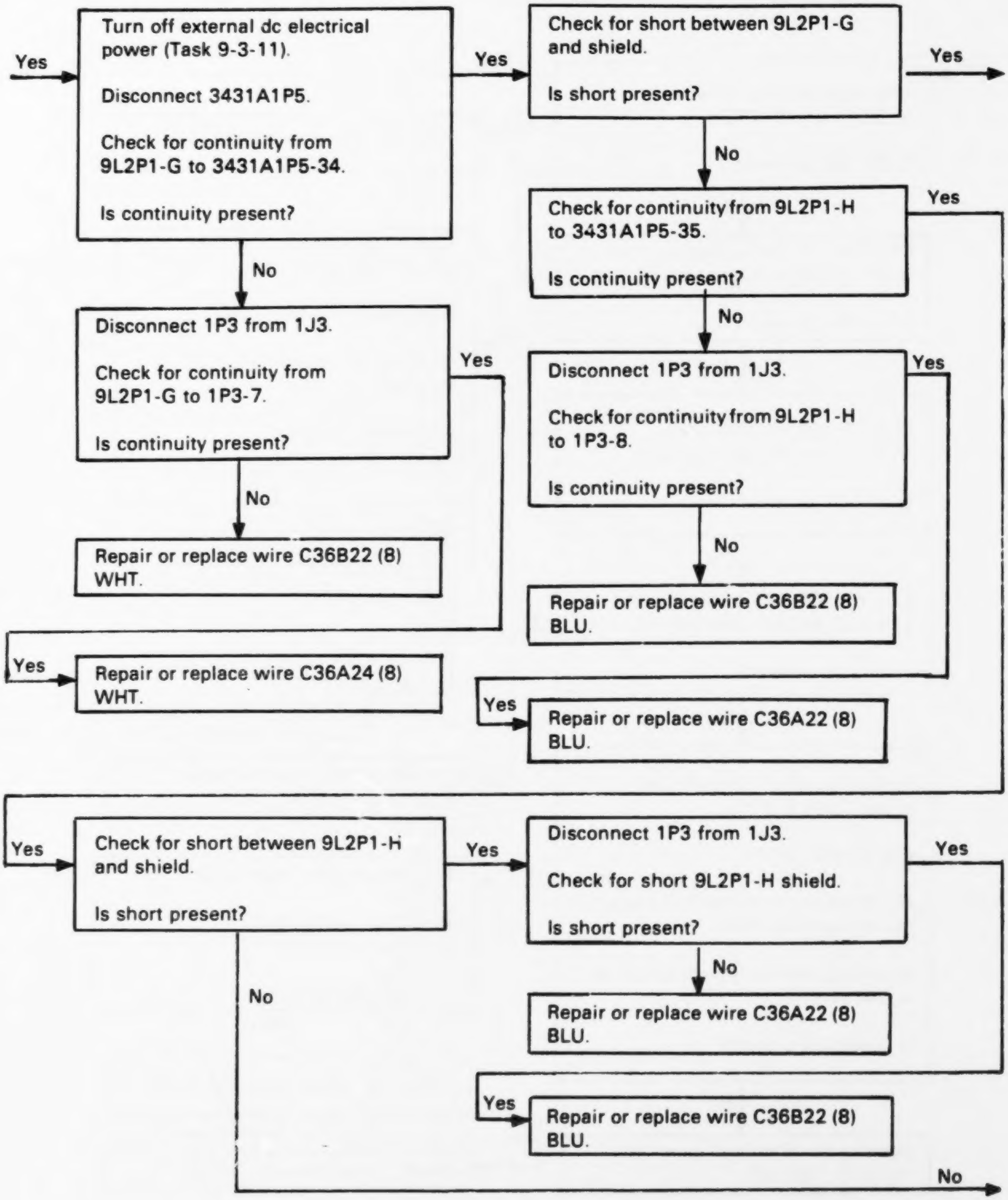
Is continuity present?

Repair or replace wire C2A22 (1).

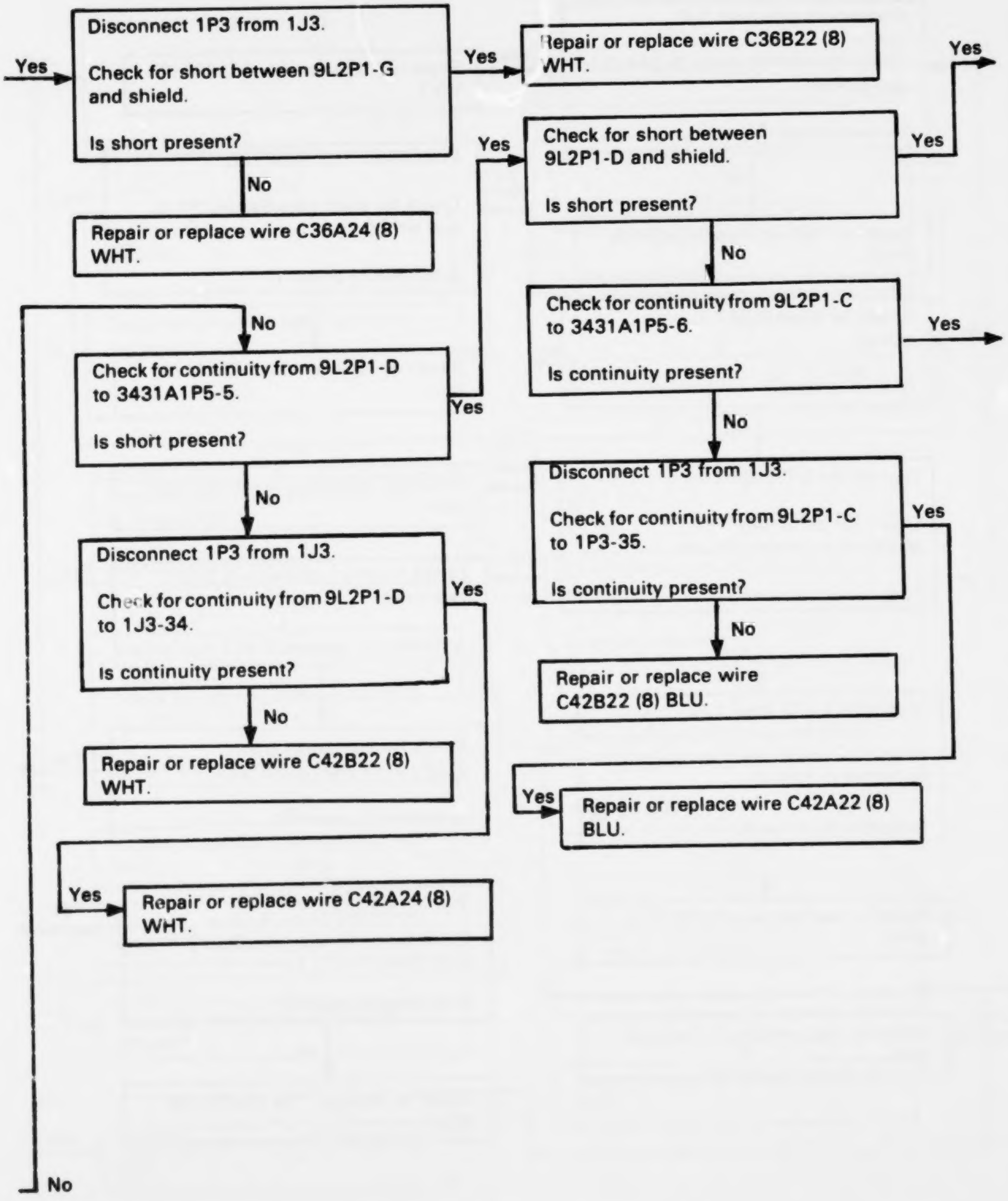
Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Repair or replace wire C2B22 (1).

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)


Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431A1P5.
Check for continuity from 9L2P1-G to 3431A1P5-34.
Is continuity present?
Yes
Check for short between 9L2P1-G and shield.
Is short present?
Yes
No
Check for continuity from 9L2P1-H to 3431A1P5-35.
Is continuity present?
Yes
No
Disconnect 1P3 from 1J3.
Check for continuity from 9L2P1-G to 1P3-7.
Is continuity present?
Yes
No
Disconnect 1P3 from 1J3.
Check for continuity from 9L2P1-H to 1P3-8.
Is continuity present?
Yes
No
Repair or replace wire C36B22 (8) WHT.
No
Repair or replace wire C36B22 (8) BLU.
Yes
Repair or replace wire C36A24 (8) WHT.
Yes
Repair or replace wire C36A22 (8) BLU.
Yes
Check for short between 9L2P1-H and shield.
Is short present?
Yes
Disconnect 1P3 from 1J3.
Check for short 9L2P1-H shield.
Is short present?
Yes
No
No
Repair or replace wire C36A22 (8) BLU.
Yes
Repair or replace wire C36B22 (8) BLU.
No

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L2P1-G and shield.

Is short present?

Repair or replace wire C36B22 (8) WHT.

Repair or replace wire C36A24 (8) WHT.

Check for continuity from 9L2P1-D to 3431A1P5-5.

Is short present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L2P1-D to 1J3-34.

Is continuity present?

Repair or replace wire C42B22 (8) WHT.

Repair or replace wire C42A24 (8) WHT.

Check for short between 9L2P1-D and shield.

Is short present?

Check for continuity from 9L2P1-C to 3431A1P5-6.

Is continuity present?

Disconnect 1P3 from 1J3.

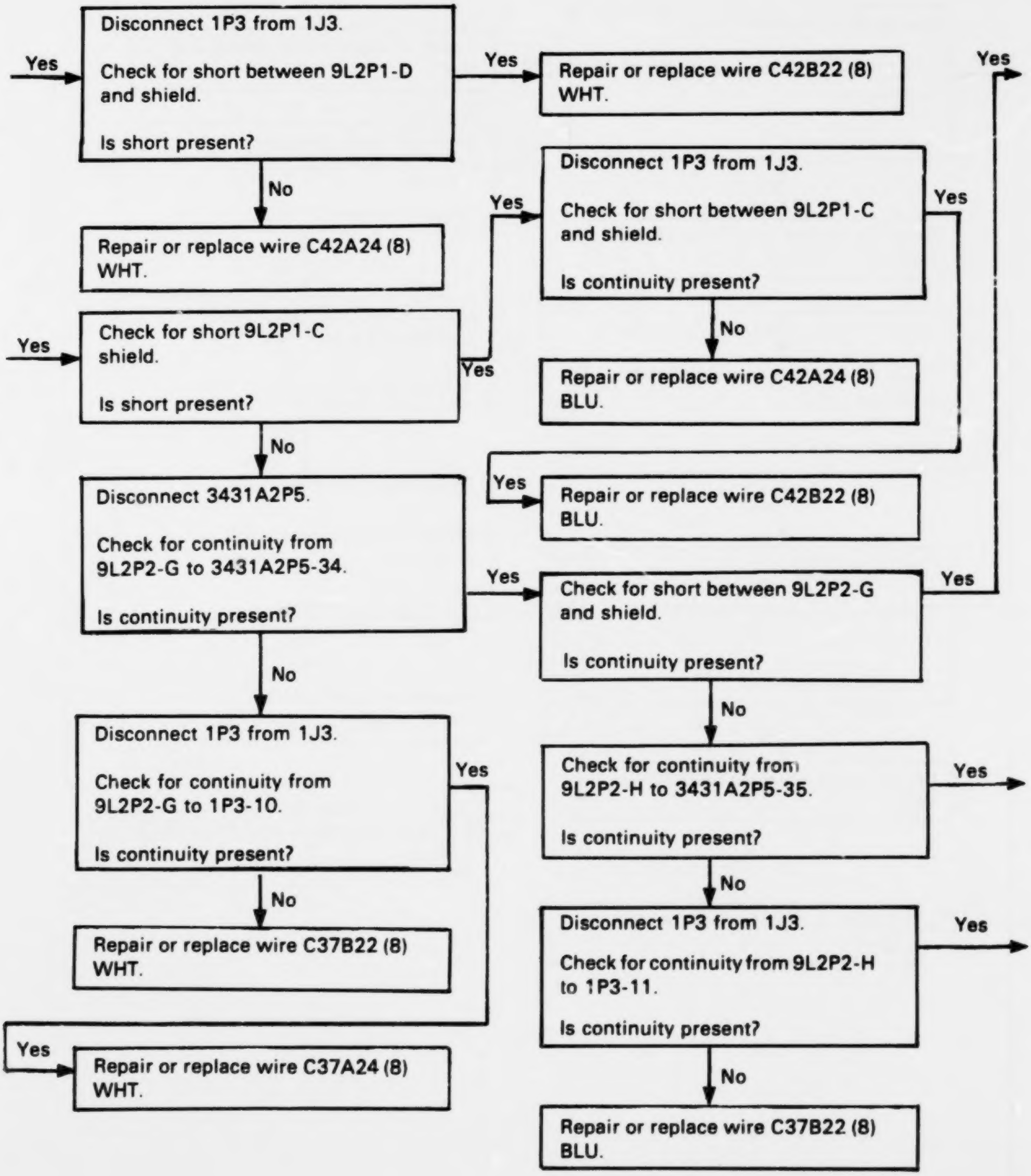
Check for continuity from 9L2P1-C to 1P3-35.

Is continuity present?

Repair or replace wire C42B22 (8) BLU.

Repair or replace wire C42A22 (8) BLU.

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L2P1-D and shield.

Is short present?

Repair or replace wire C42A24 (8) WHT.

Check for short 9L2P1-C shield.

Is short present?

Disconnect 3431A2P5.

Check for continuity from 9L2P2-G to 3431A2P5-34.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L2P2-G to 1P3-10.

Is continuity present?

Repair or replace wire C37B22 (8) WHT.

Repair or replace wire C37A24 (8) WHT.

Repair or replace wire C42B22 (8) WHT.

Disconnect 1P3 from 1J3.

Check for short between 9L2P1-C and shield.

Is continuity present?

Repair or replace wire C42A24 (8) BLU.

Repair or replace wire C42B22 (8) BLU.

Check for short between 9L2P2-G and shield.

Is continuity present?

Check for continuity from 9L2P2-H to 3431A2P5-35.

Is continuity present?

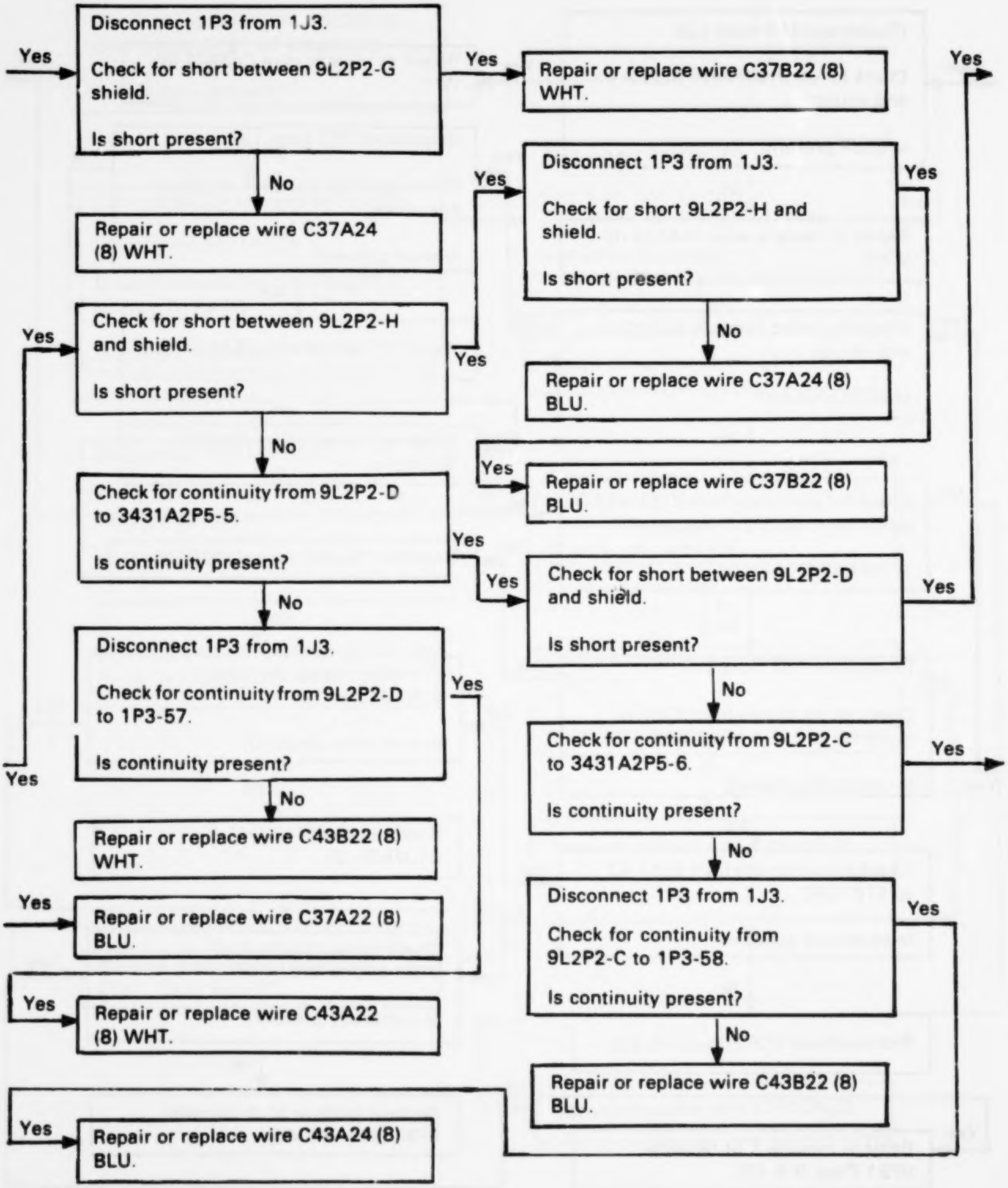
Disconnect 1P3 from 1J3.

Check for continuity from 9L2P2-H to 1P3-11.

Is continuity present?

Repair or replace wire C37B22 (8) BLU.

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Disconnect 1P3 from 1J3.

Check for short between 9L2P2-G shield.

Is short present?

Repair or replace wire C37B22 (8) WHT.

Repair or replace wire C37A24 (8) WHT.

Disconnect 1P3 from 1J3.

Check for short 9L2P2-H and shield.

Is short present?

Check for short between 9L2P2-H and shield.

Is short present?

Repair or replace wire C37A24 (8) BLU.

Repair or replace wire C37B22 (8) BLU.

Check for continuity from 9L2P2-D to 3431A2P5-5.

Is continuity present?

Check for short between 9L2P2-D and shield.

Is short present?

Disconnect 1P3 from 1J3.

Check for continuity from 9L2P2-D to 1P3-57.

Is continuity present?

Check for continuity from 9L2P2-C to 3431A2P5-6.

Is continuity present?

Repair or replace wire C43B22 (8) WHT.

Disconnect 1P3 from 1J3.

Check for continuity from 9L2P2-C to 1P3-58.

Is continuity present?

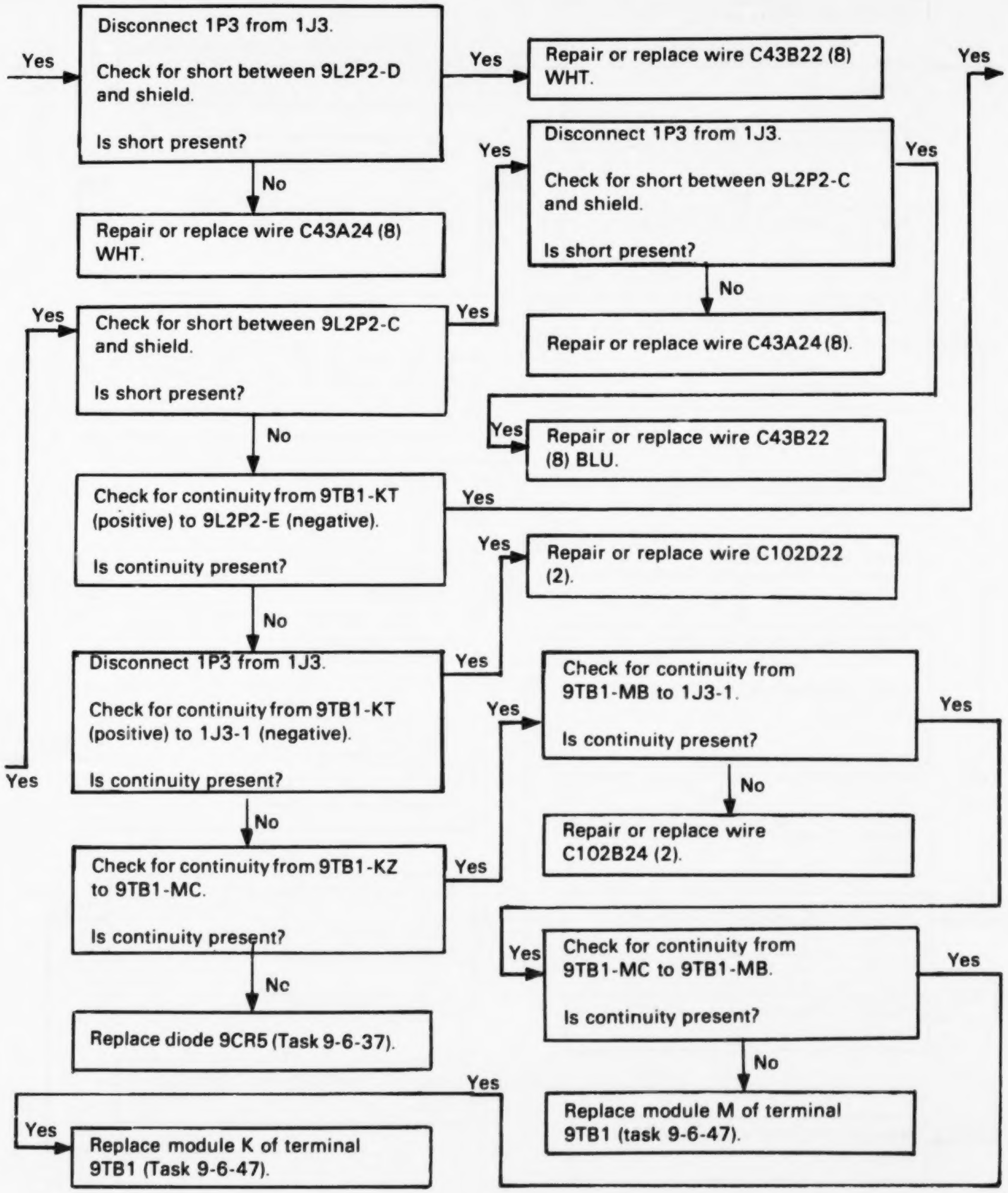
Repair or replace wire C37A22 (8) BLU.

Repair or replace wire C43A22 (8) WHT.

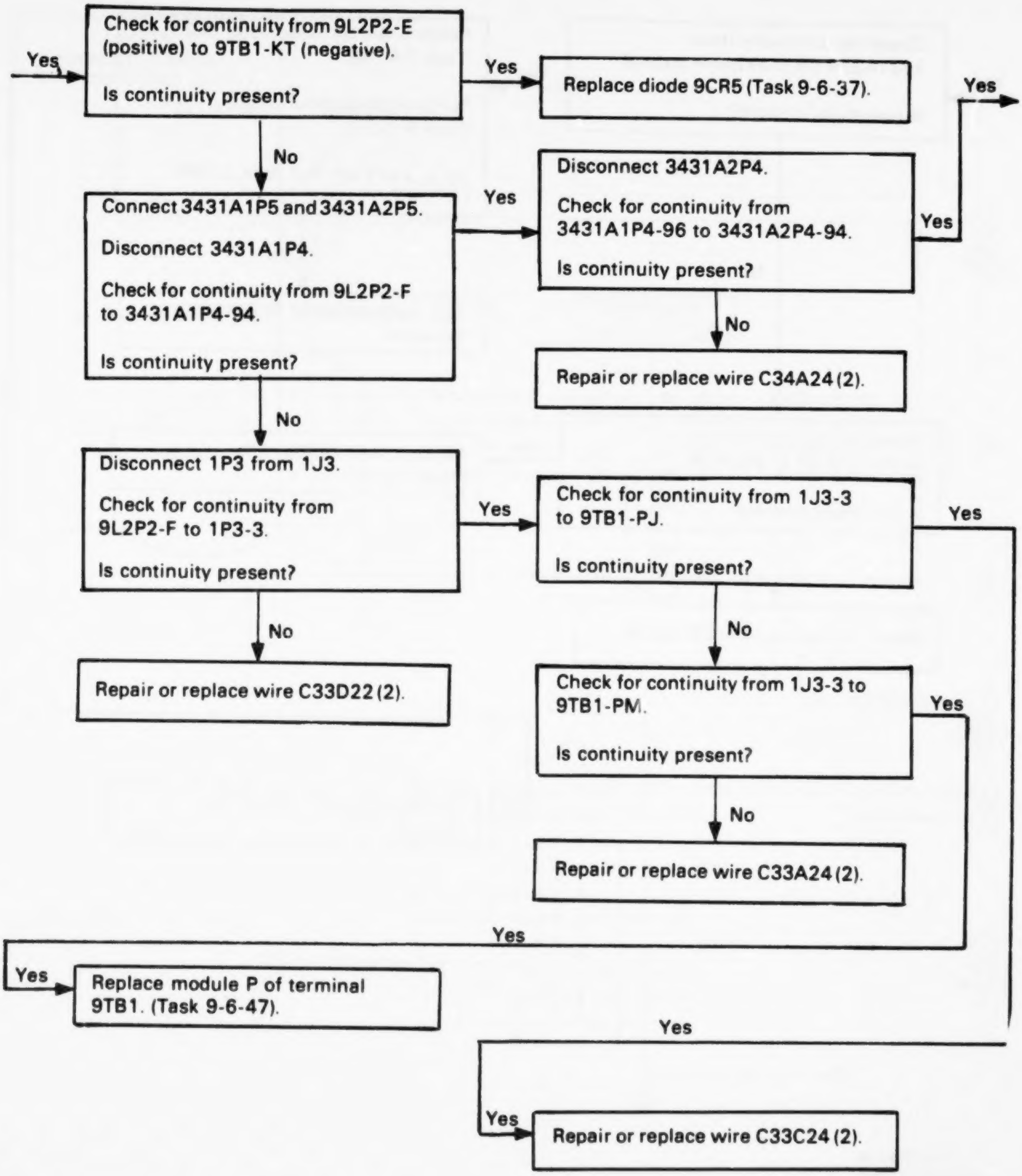
Repair or replace wire C43B22 (8) BLU.

Repair or replace wire C43A24 (8) BLU.

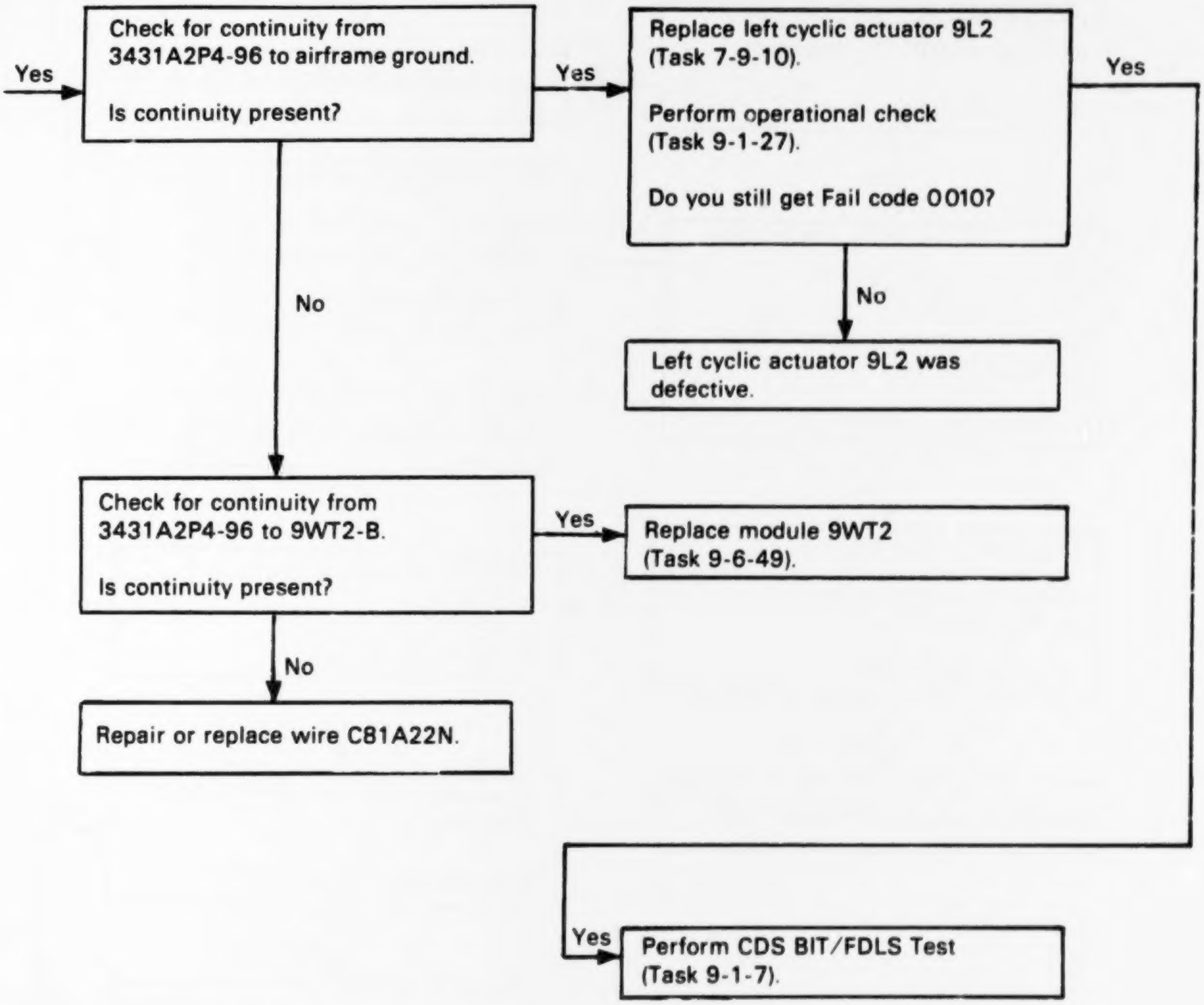
216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)


Yes
Disconnect 1P3 from 1J3. Check for short between 9L2P2-D and shield. Is short present?
Yes
Repair or replace wire C43B22 (8) WHT.
Yes
No
Repair or replace wire C43A24 (8) WHT.
Yes
Disconnect 1P3 from 1J3. Check for short between 9L2P2-C and shield. Is short present?
Yes
No
Repair or replace wire C43A24 (8).
Yes
Check for short between 9L2P2-C and shield. Is short present?
Yes
No
Yes
Repair or replace wire C43B22 (8) BLU.
Check for continuity from 9TB1-KT (positive) to 9L2P2-E (negative). Is continuity present?
Yes
Yes
Repair or replace wire C102D22 (2).
No
Disconnect 1P3 from 1J3. Check for continuity from 9TB1-KT (positive) to 1J3-1 (negative). Is continuity present?
Yes
Yes
Check for continuity from 9TB1-MB to 1J3-1. Is continuity present?
Yes
Yes
No
No
Repair or replace wire C102B24 (2).
Check for continuity from 9TB1-KZ to 9TB1-MC. Is continuity present?
Yes
Yes
Check for continuity from 9TB1-MC to 9TB1-MB. Is continuity present?
Yes
No
Replace diode 9CR5 (Task 9-6-37).
No
Yes
Replace module M of terminal 9TB1 (task 9-6-47).
Yes
Replace module K of terminal 9TB1 (Task 9-6-47).

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)


Yes
Check for continuity from 9L2P2-E (positive) to 9TB1-KT (negative).
Is continuity present?
Yes
Replace diode 9CR5 (Task 9-6-37).
Yes
No
Disconnect 3431A2P4.
Check for continuity from 3431A1P4-96 to 3431A2P4-94.
Is continuity present?
Yes
Yes
Connect 3431A1P5 and 3431A2P5.
Disconnect 3431A1P4.
Check for continuity from 9L2P2-F to 3431A1P4-94.
Is continuity present?
No
Repair or replace wire C34A24 (2).
No
Disconnect 1P3 from 1J3.
Check for continuity from 9L2P2-F to 1P3-3.
Is continuity present?
Yes
Check for continuity from 1J3-3 to 9TB1-PJ.
Is continuity present?
Yes
No
No
Repair or replace wire C33D22 (2).
Check for continuity from 1J3-3 to 9TB1-PM.
Is continuity present?
Yes
No
Repair or replace wire C33A24 (2).
Yes
Yes
Replace module P of terminal 9TB1. (Task 9-6-47).
Yes
Yes
Repair or replace wire C33C24 (2).

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)



Check for continuity from 3431A2P4-96 to airframe ground.

Is continuity present?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Perform operational check (Task 9-1-27).

Do you still get Fail code 0010?

Left cyclic actuator 9L2 was defective.

Check for continuity from 3431A2P4-96 to 9WT2-B.

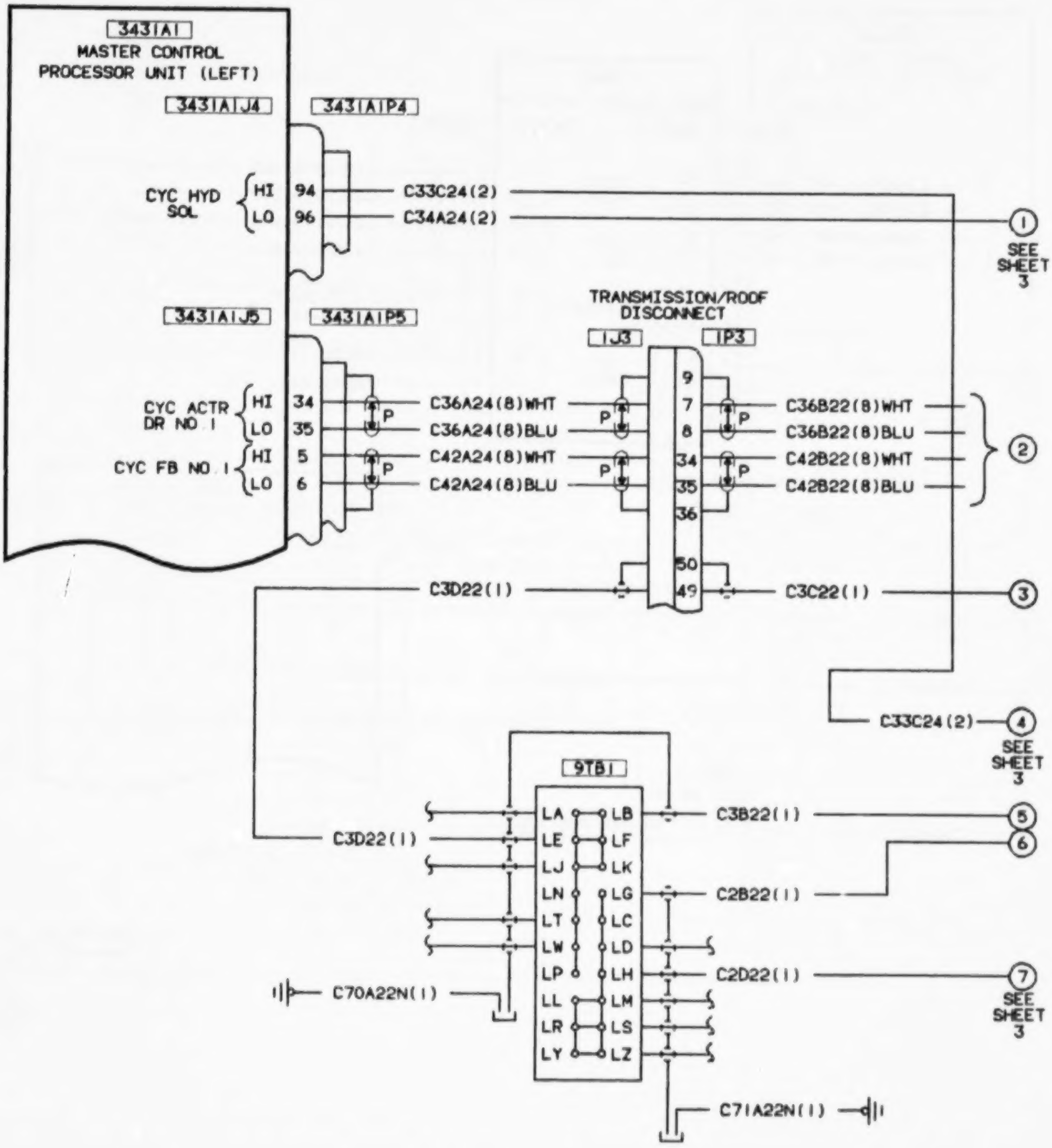
Is continuity present?

Replace module 9WT2 (Task 9-6-49).

Repair or replace wire C81A22N.

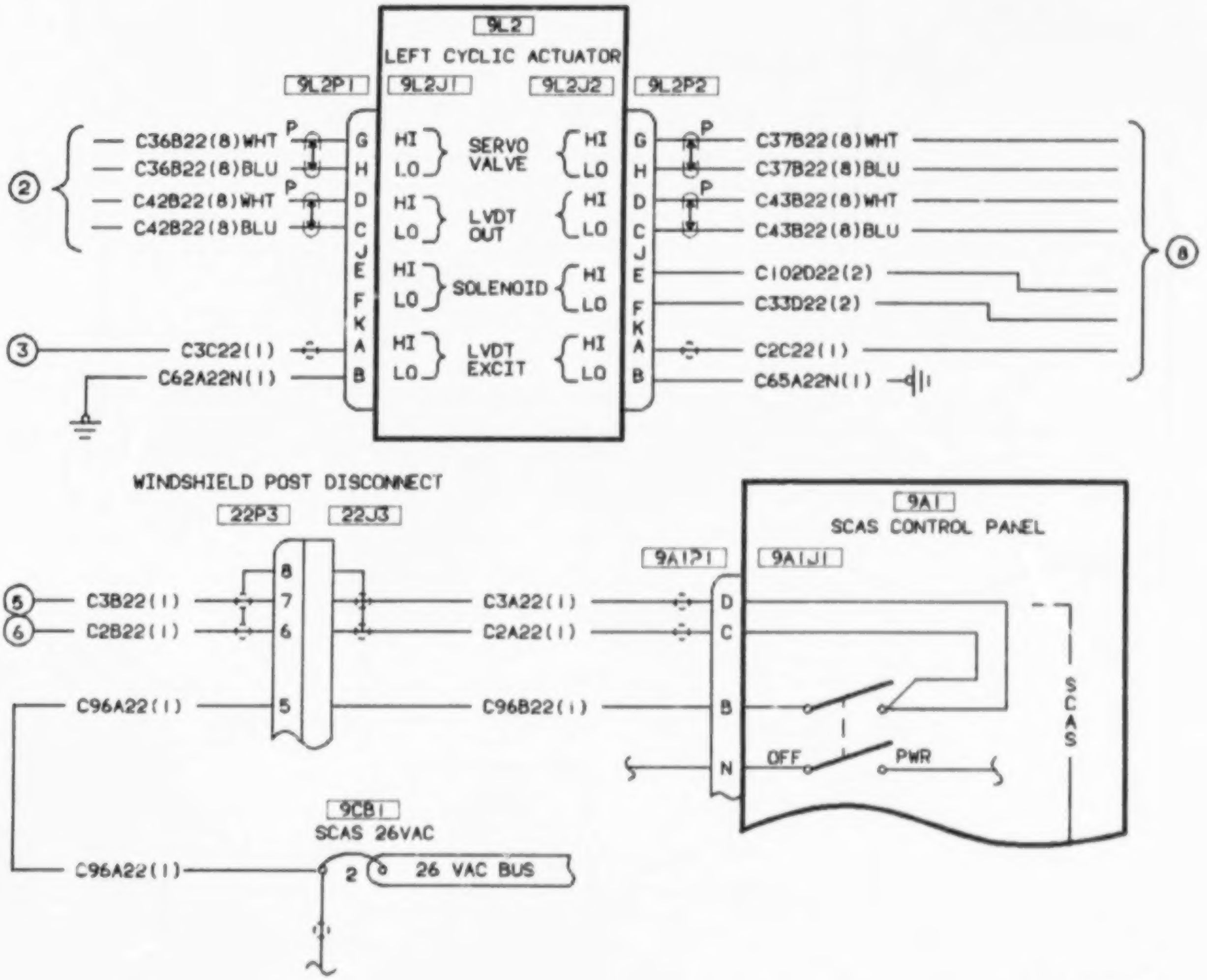
Perform CDS BIT/FDLS Test (Task 9-1-7).

216. ERROR CODE 0010 WORD 1 LEFT CYCL!C ACTUATOR FAIL (CONT)


343IAI
MASTER CONTROL PROCESSOR UNIT (LEFT)
343IAIJ4
343IAIP4
CYC HYD SOL
HI 94
LO 96
C33C24(2)
C34A24(2)
1
SEE SHEET 3
343IAIJ5
343IAIP5
TRANSMISSION/ROOF DISCONNECT
IJ3
IP3
CYC ACTR DR NO. I
HI 34
LO 35
CYC FB NO. I
HI 5
LO 6
P
C36A24(8)WHT
C36A24(8)BLU
C42A24(8)WHT
C42A24(8)BLU
9
7
8
34
35
36
50
49
C36B22(8)WHT
C36B22(8)BLU
C42B22(8)WHT
C42B22(8)BLU
2
C3D22(1)
C3C22(1)
3
C33C24(2)
4
SEE SHEET 3
9TBI
LA LB
LE LF
LJ LK
LN LG
LT LC
LW LD
LP LH
LL LM
LR LS
LY LZ
C3B22(1)
5
6
C3D22(1)
C2B22(1)
C2D22(1)
7
SEE SHEET 3
C70A22N(1)
C71A22N(1)

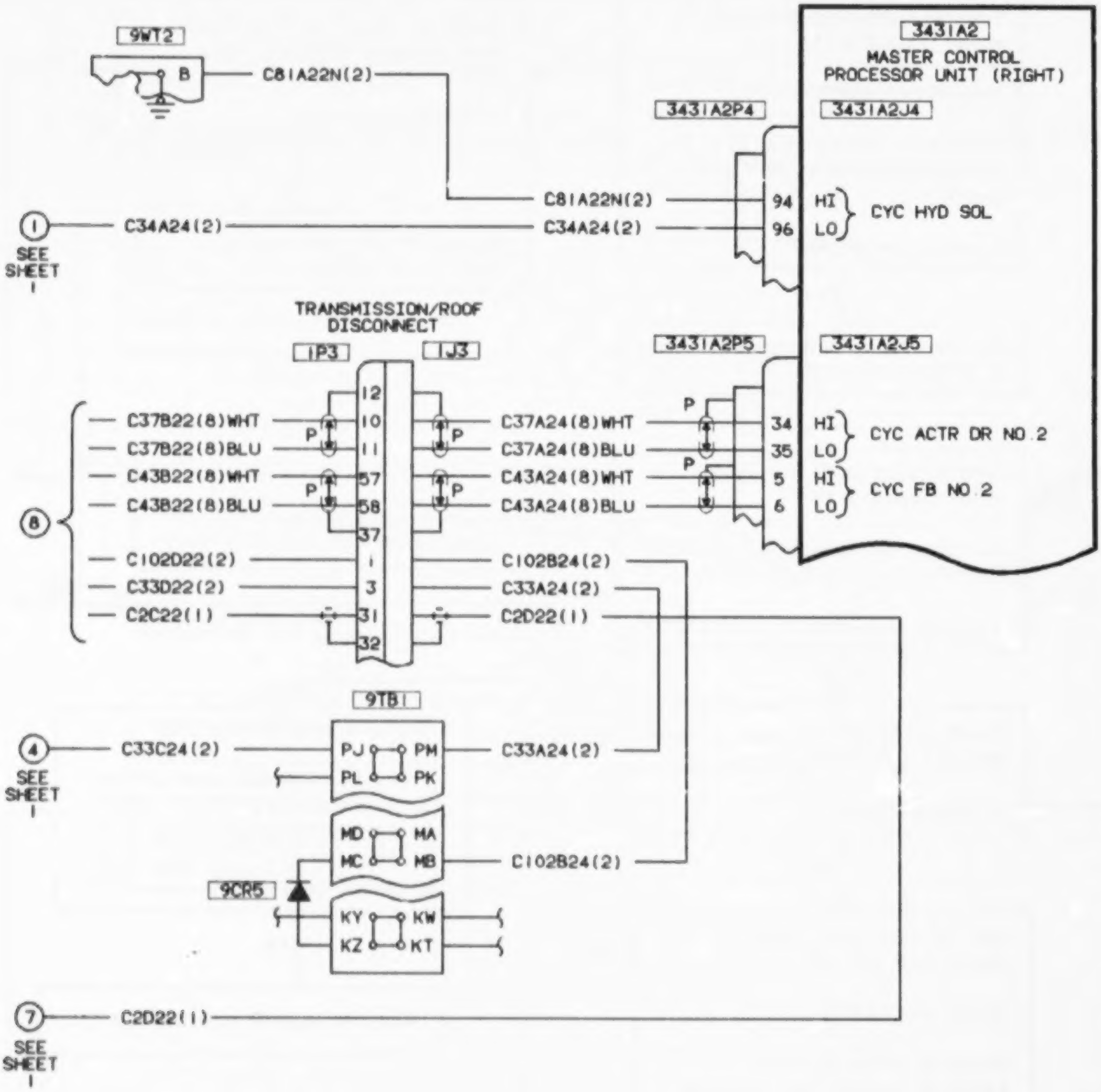
406475-241-1
406-475-606A

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)


9L2
LEFT CYCLIC ACTUATOR
9L2P1
9L2J1
9L2J2
9L2P2
C36B22(8)WHT
C36B22(8)BLU
C42B22(8)WHT
C42B22(8)BLU
P
G
H
D
C
J
E
F
K
A
B
HI
LO
SERVO VALVE
LVDT OUT
SOLENOID
LVDT EXCIT
C37B22(8)WHT
C37B22(8)BLU
C43B22(8)WHT
C43B22(8)BLU
C102D22(2)
C33D22(2)
C2C22(1)
C65A22N(1)
②
③
⑧
C3C22(1)
C62A22N(1)
WINDSHIELD POST DISCONNECT
22P3
22J3
8
7
6
5
⑤
⑥
C3B22(1)
C2B22(1)
C96A22(1)
C3A22(1)
C2A22(1)
C96B22(1)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
D
C
B
N
OFF
PWR
SCAS
9CB1
SCAS 26VAC
C96A22(1)
2
26 VAC BUS

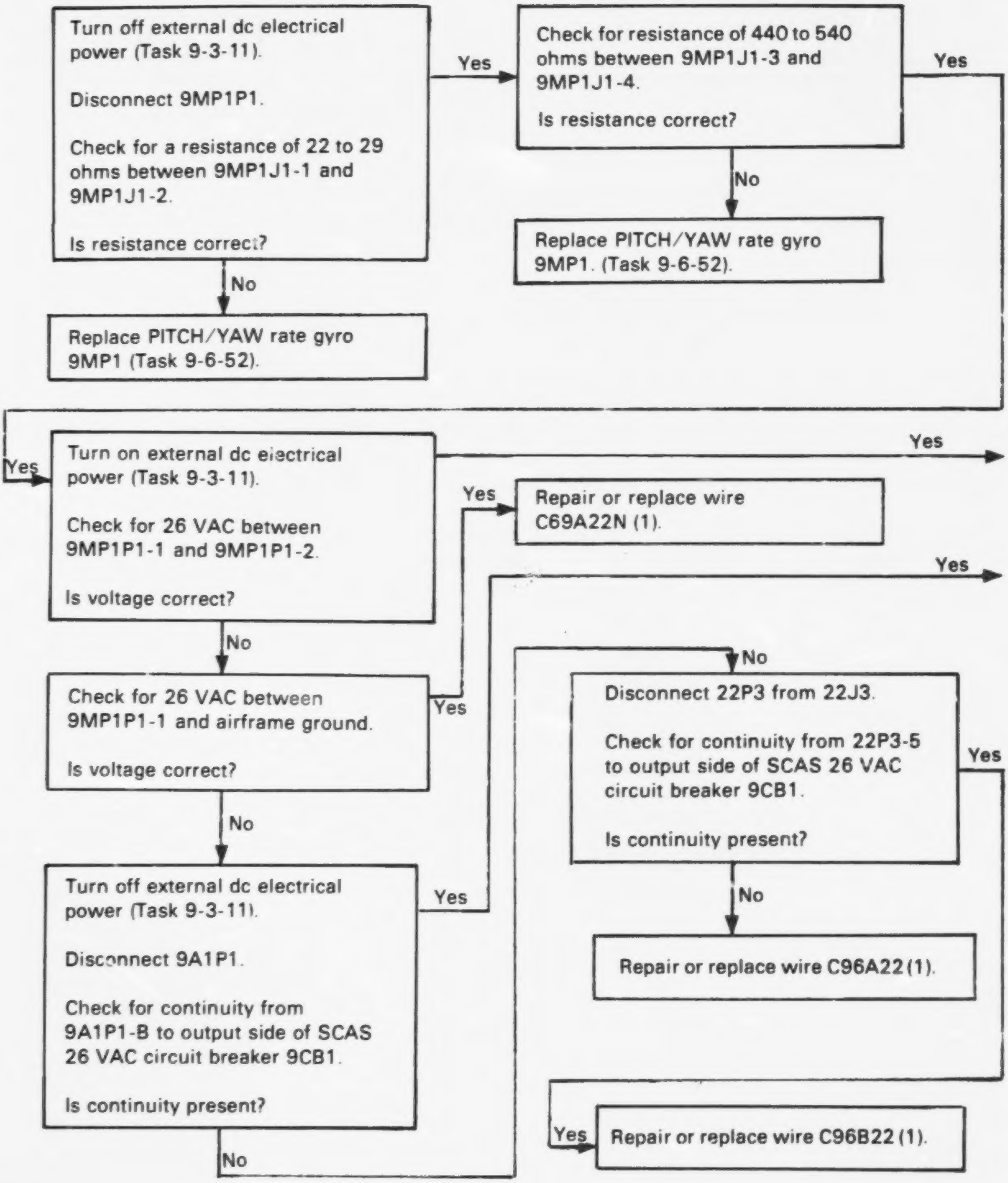
406475-241-2
406-475-606A

216. ERROR CODE 0010 WORD 1 LEFT CYCLIC ACTUATOR FAIL (CONT)

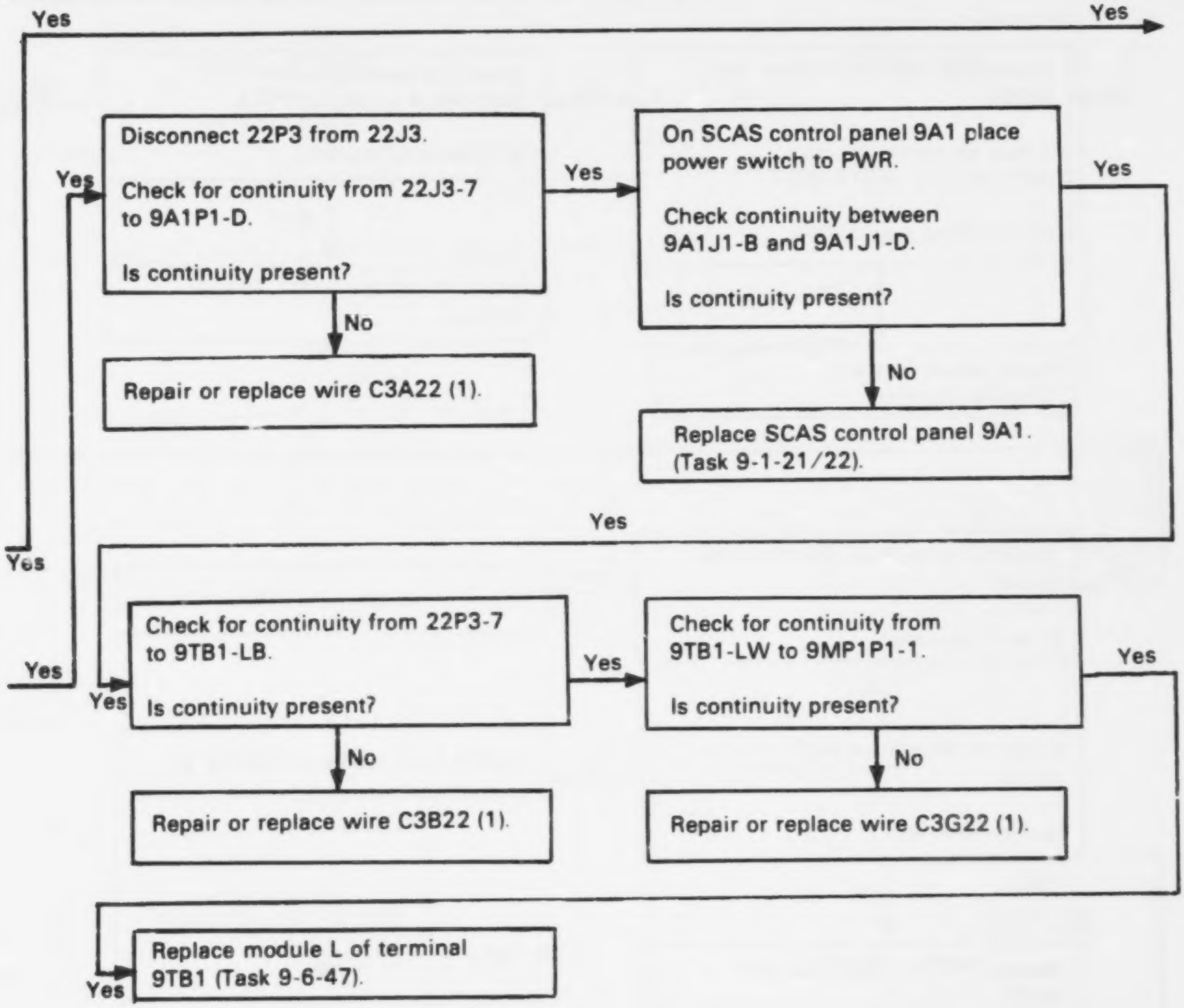

9WT2
B
C81A22N(2)
3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P4
3431A2J4
C81A22N(2)
94 HI
96 LO
CYC HYD SOL
1
SEE SHEET 1
C34A24(2)
C34A24(2)
TRANSMISSION/ROOF DISCONNECT
1P3
1J3
3431A2P5
3431A2J5
12
10
11
57
58
37
1
3
31
32
P
C37B22(8)WHT
C37B22(8)BLU
C43B22(8)WHT
C43B22(8)BLU
C102D22(2)
C33D22(2)
C2C22(1)
8
C37A24(8)WHT
C37A24(8)BLU
C43A24(8)WHT
C43A24(8)BLU
C102B24(2)
C33A24(2)
C2D22(1)
34 HI
35 LO
CYC ACTR DR NO.2
5 HI
6 LO
CYC FB NO.2
9TB1
4
SEE SHEET 1
C33C24(2)
PJ
PM
PL
PK
C33A24(2)
MD
MA
MC
MB
C102B24(2)
9CR5
KY
KW
KZ
KT
7
SEE SHEET 1
C2D22(1)

406475-241-3
406-475-606A

217. ERROR CODE 0200 WORD 1 PITCH RATE GYRO FAILURE


Turn off external dc electrical power (Task 9-3-11).
Disconnect 9MP1P1.
Check for a resistance of 22 to 29 ohms between 9MP1J1-1 and 9MP1J1-2.
Is resistance correct?
Yes
Check for resistance of 440 to 540 ohms between 9MP1J1-3 and 9MP1J1-4.
Is resistance correct?
Yes
No
Replace PITCH/YAW rate gyro 9MP1. (Task 9-6-52).
No
Replace PITCH/YAW rate gyro 9MP1 (Task 9-6-52).
Yes
Turn on external dc electrical power (Task 9-3-11).
Check for 26 VAC between 9MP1P1-1 and 9MP1P1-2.
Is voltage correct?
Yes
Yes
Repair or replace wire C69A22N (1).
Yes
No
Check for 26 VAC between 9MP1P1-1 and airframe ground.
Is voltage correct?
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Disconnect 9A1P1.
Check for continuity from 9A1P1-B to output side of SCAS 26 VAC circuit breaker 9CB1.
Is continuity present?
Yes
No
No
Disconnect 22P3 from 22J3.
Check for continuity from 22P3-5 to output side of SCAS 26 VAC circuit breaker 9CB1.
Is continuity present?
Yes
No
Repair or replace wire C96A22 (1).
Yes
Repair or replace wire C96B22 (1).

217. ERROR CODE 0200 WORD 1 PITCH RATE GYRO FAILURE (CONT)



Disconnect 22P3 from 22J3.

Check for continuity from 22J3-7 to 9A1P1-D.

Is continuity present?

Repair or replace wire C3A22 (1).

On SCAS control panel 9A1 place power switch to PWR.

Check continuity between 9A1J1-B and 9A1J1-D.

Is continuity present?

Replace SCAS control panel 9A1. (Task 9-1-21/22).

Check for continuity from 22P3-7 to 9TB1-LB.

Is continuity present?

Repair or replace wire C3B22 (1).

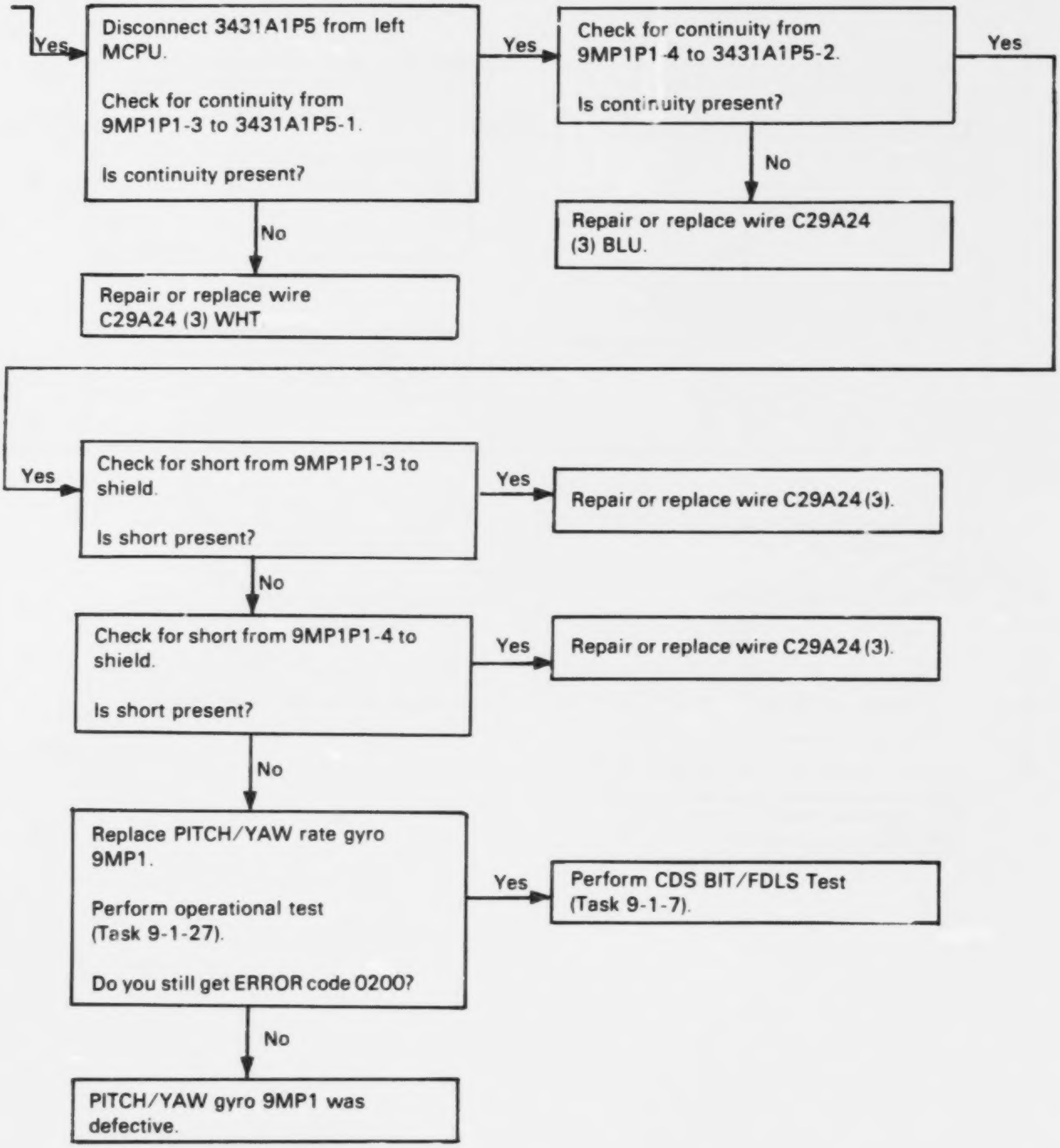
Check for continuity from 9TB1-LW to 9MP1P1-1.

Is continuity present?

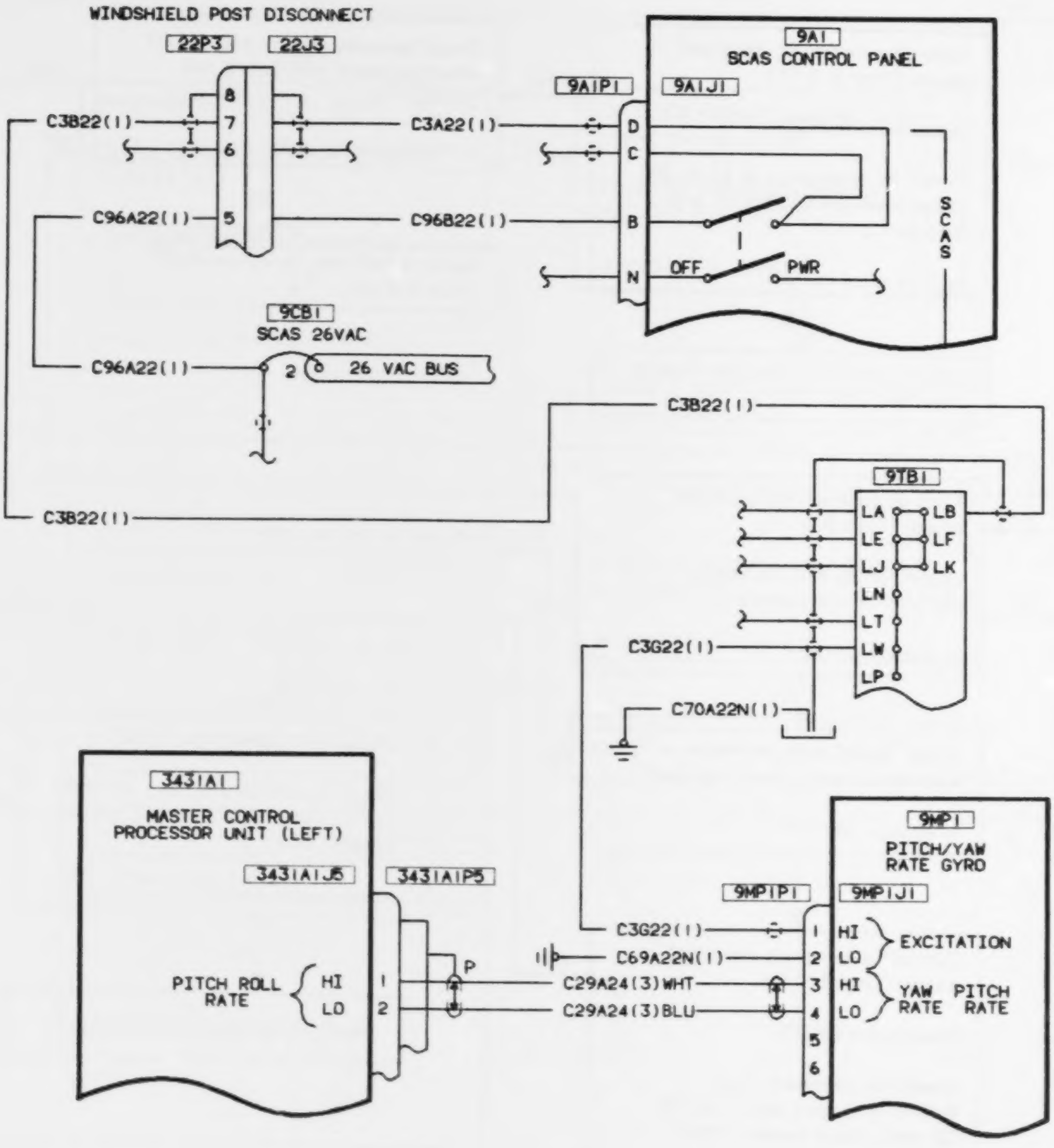
Repair or replace wire C3G22 (1).

Replace module L of terminal 9TB1 (Task 9-6-47).

217. ERROR CODE 0200 WORD 1 PITCH RATE GYRO FAILURE (CONT)


Yes
Disconnect 3431A1P5 from left MCPU.
Check for continuity from 9MP1P1-3 to 3431A1P5-1.
Is continuity present?
Yes
Check for continuity from 9MP1P1-4 to 3431A1P5-2.
Is continuity present?
Yes
No
Repair or replace wire C29A24 (3) BLU.
No
Repair or replace wire C29A24 (3) WHT
Yes
Check for short from 9MP1P1-3 to shield.
Is short present?
Yes
Repair or replace wire C29A24 (3).
No
Check for short from 9MP1P1-4 to shield.
Is short present?
Yes
Repair or replace wire C29A24 (3).
No
Replace PITCH/YAW rate gyro 9MP1.
Perform operational test (Task 9-1-27).
Do you still get ERROR code 0200?
Yes
Perform CDS BIT/FDLS Test (Task 9-1-7).
No
PITCH/YAW gyro 9MP1 was defective.

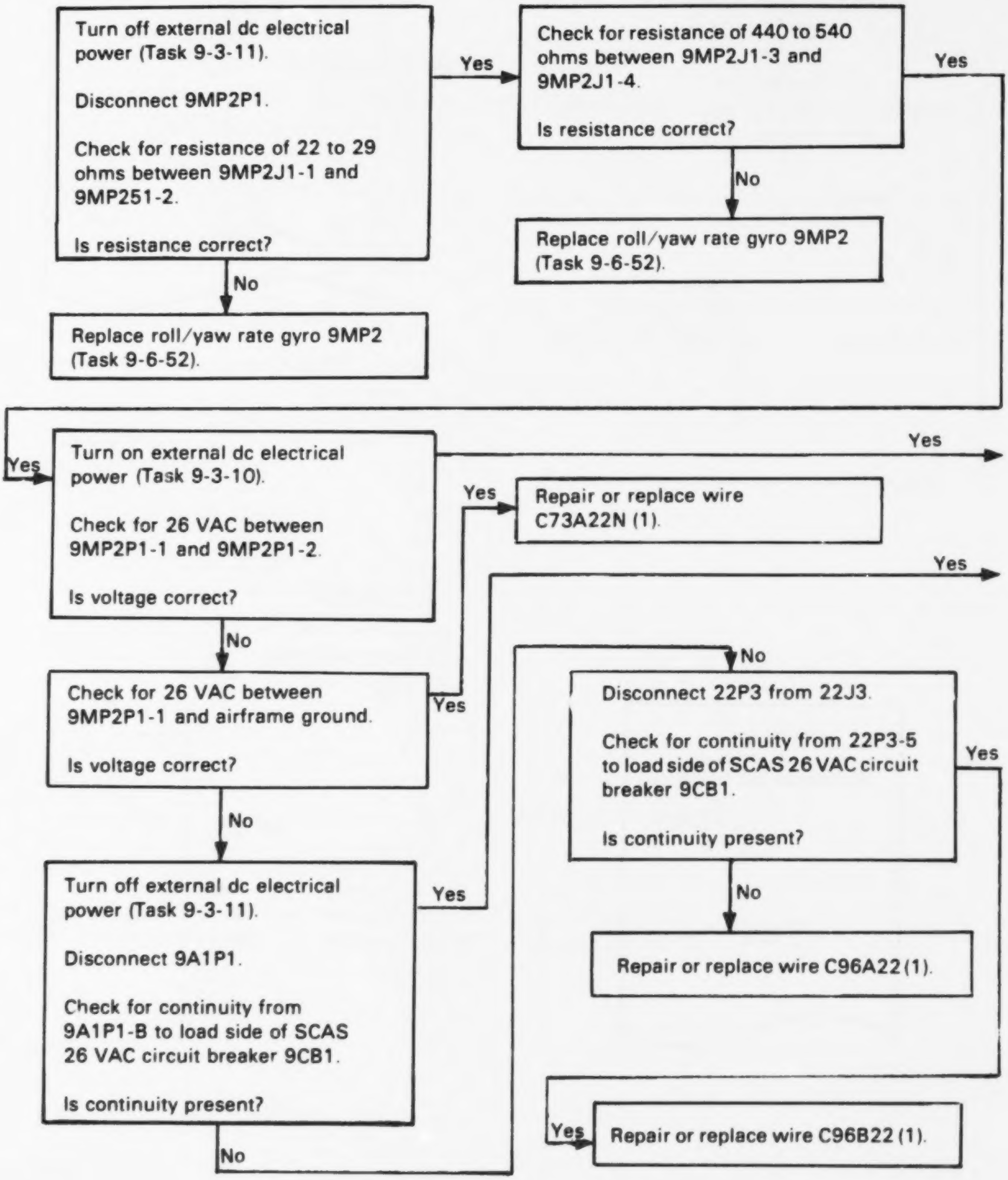
217. ERROR CODE 0200 WORD 1 PITCH RATE GYRO FAILURE (CONT)



WINDSHIELD POST DISCONNECT
22P3
22J3
8
7
6
5
C3B22(1)
C96A22(1)
C3A22(1)
C96B22(1)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
D
C
B
N
OFF
PWR
SCAS
9CB1
SCAS 26VAC
C96A22(1)
2
26 VAC BUS
C3B22(1)
C3B22(1)
9TB1
LA
LB
LE
LF
LJ
LK
LN
LT
LW
LP
C3G22(1)
C70A22N(1)
3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1J5
3431A1P5
PITCH ROLL RATE
HI
LO
1
2
P
C3G22(1)
C69A22N(1)
C29A24(3)WHT
C29A24(3)BLU
9MP1
PITCH/YAW RATE GYRO
9MP1P1
9MP1J1
1
2
3
4
5
6
HI
LO
HI
LO
EXCITATION
YAW RATE
PITCH RATE

406475-242

218. ERROR CODE 0400 WORD 1 ROLL RATE GYRO FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9MP2P1.

Check for resistance of 22 to 29 ohms between 9MP2J1-1 and 9MP251-2.

Is resistance correct?

Replace roll/yaw rate gyro 9MP2 (Task 9-6-52).

Check for resistance of 440 to 540 ohms between 9MP2J1-3 and 9MP2J1-4.

Is resistance correct?

Replace roll/yaw rate gyro 9MP2 (Task 9-6-52).

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9MP2P1-1 and 9MP2P1-2.

Is voltage correct?

Repair or replace wire C73A22N (1).

Check for 26 VAC between 9MP2P1-1 and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

Check for continuity from 9A1P1-B to load side of SCAS 26 VAC circuit breaker 9CB1.

Is continuity present?

Disconnect 22P3 from 22J3.

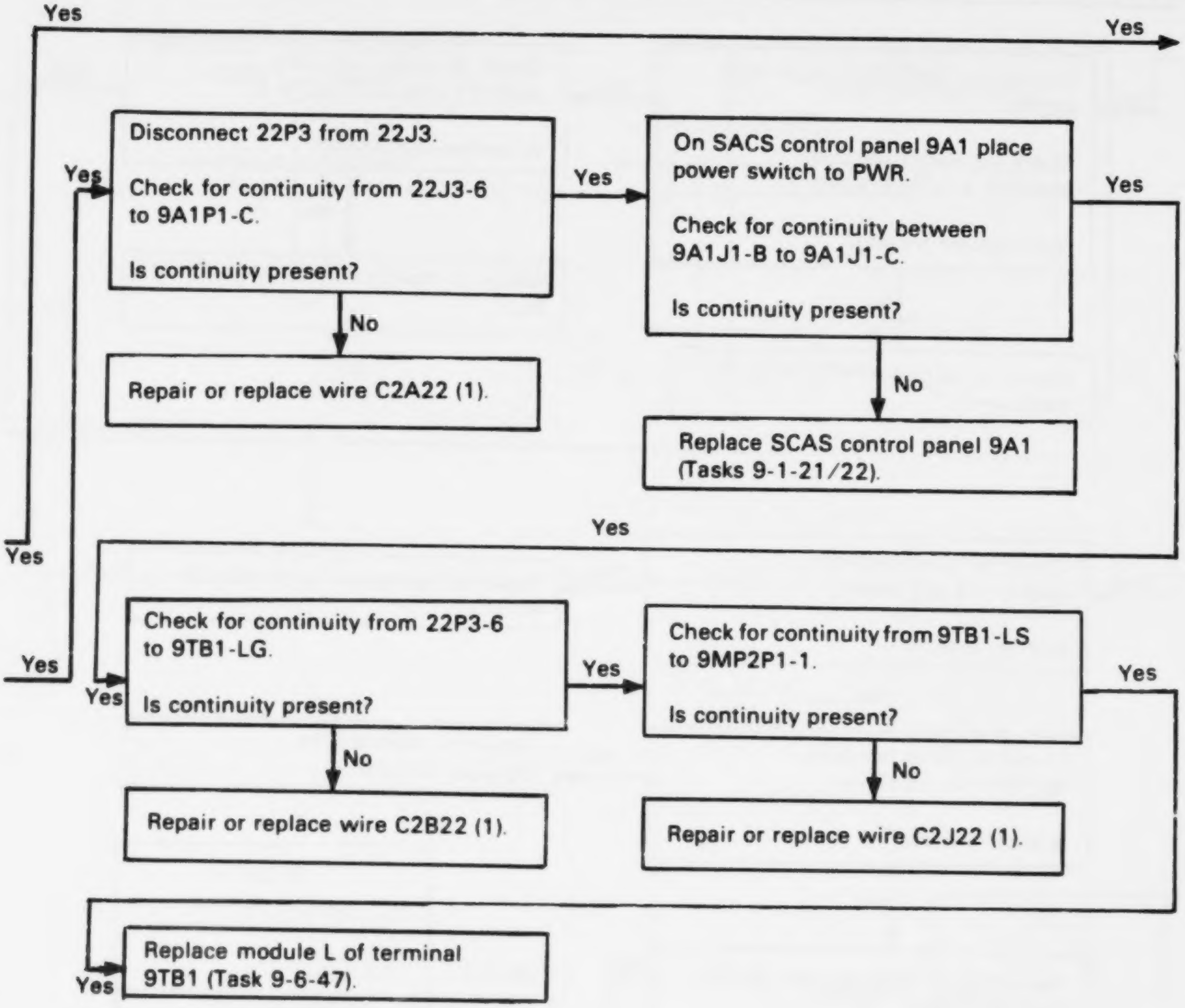
Check for continuity from 22P3-5 to load side of SCAS 26 VAC circuit breaker 9CB1.

Is continuity present?

Repair or replace wire C96A22 (1).

Repair or replace wire C96B22 (1).

218. ERROR CODE 0400 WORD 1 ROLL RATE GYRO FAILURE (CONT)



Disconnect 22P3 from 22J3.

Check for continuity from 22J3-6 to 9A1P1-C.

Is continuity present?

Repair or replace wire C2A22 (1).

On SACS control panel 9A1 place power switch to PWR.

Check for continuity between 9A1J1-B to 9A1J1-C.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Check for continuity from 22P3-6 to 9TB1-LG.

Is continuity present?

Repair or replace wire C2B22 (1).

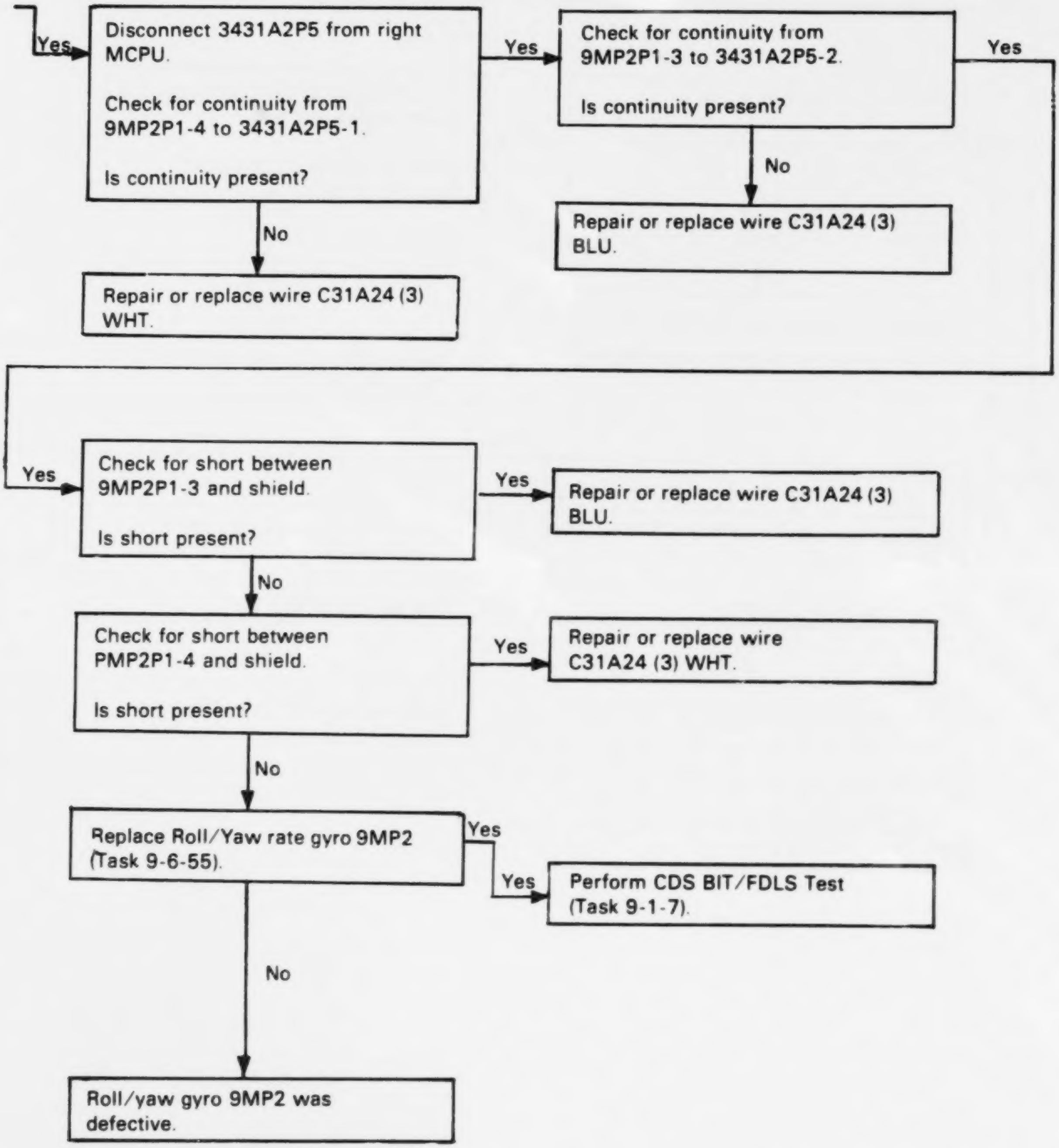
Check for continuity from 9TB1-LS to 9MP2P1-1.

Is continuity present?

Repair or replace wire C2J22 (1).

Replace module L of terminal 9TB1 (Task 9-6-47).

218. ERROR CODE 0400 WORD 1 ROLL RATE GYRO FAILURE (CONT)



Disconnect 3431A2P5 from right MCPU.

Check for continuity from 9MP2P1-4 to 3431A2P5-1.

Is continuity present?

Check for continuity from 9MP2P1-3 to 3431A2P5-2.

Is continuity present?

Repair or replace wire C31A24 (3) BLU.

Repair or replace wire C31A24 (3) WHT.

Check for short between 9MP2P1-3 and shield.

Is short present?

Repair or replace wire C31A24 (3) BLU.

Check for short between PMP2P1-4 and shield.

Is short present?

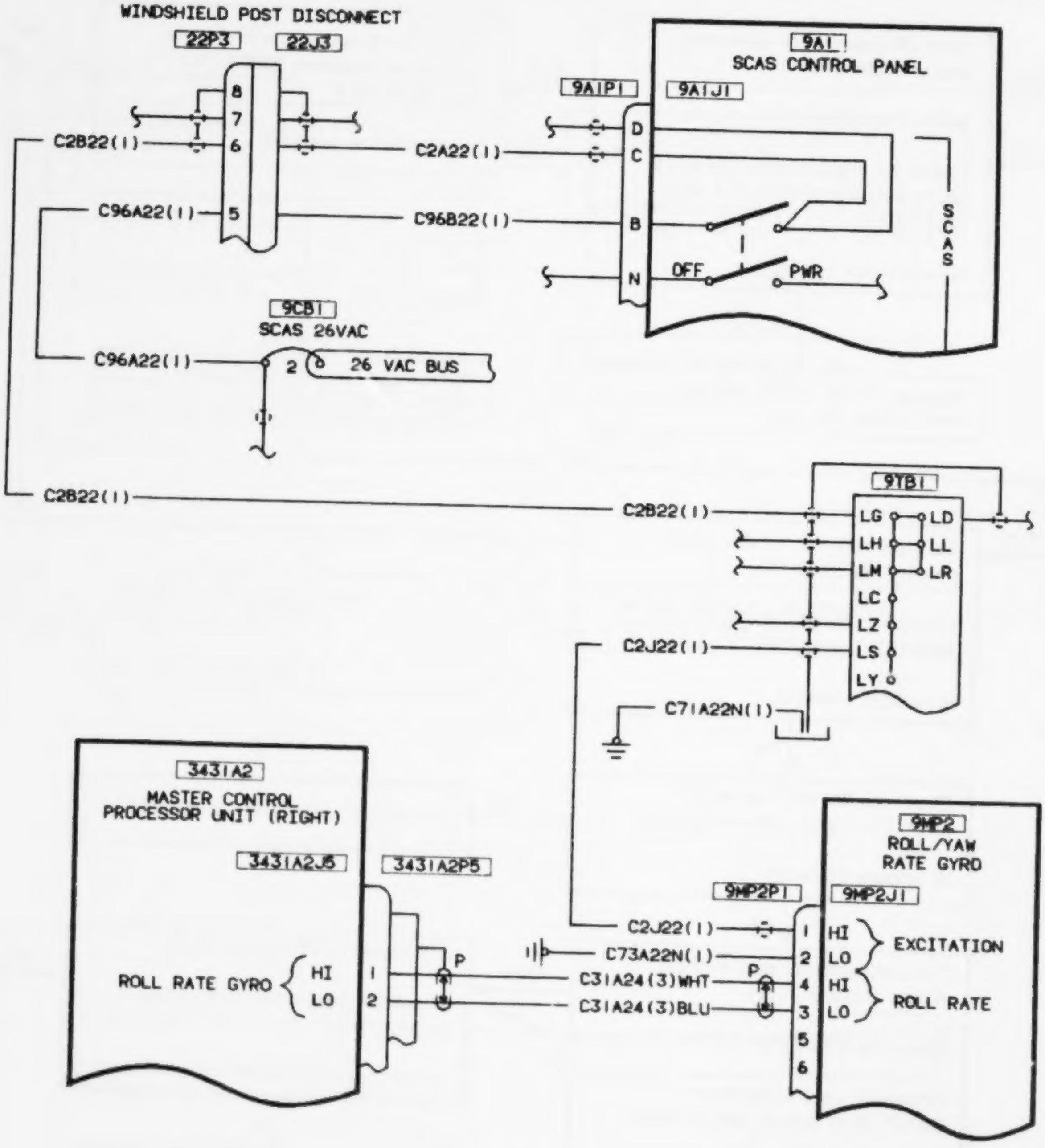
Repair or replace wire C31A24 (3) WHT.

Replace Roll/Yaw rate gyro 9MP2 (Task 9-6-55).

Perform CDS BIT/FDLS Test (Task 9-1-7).

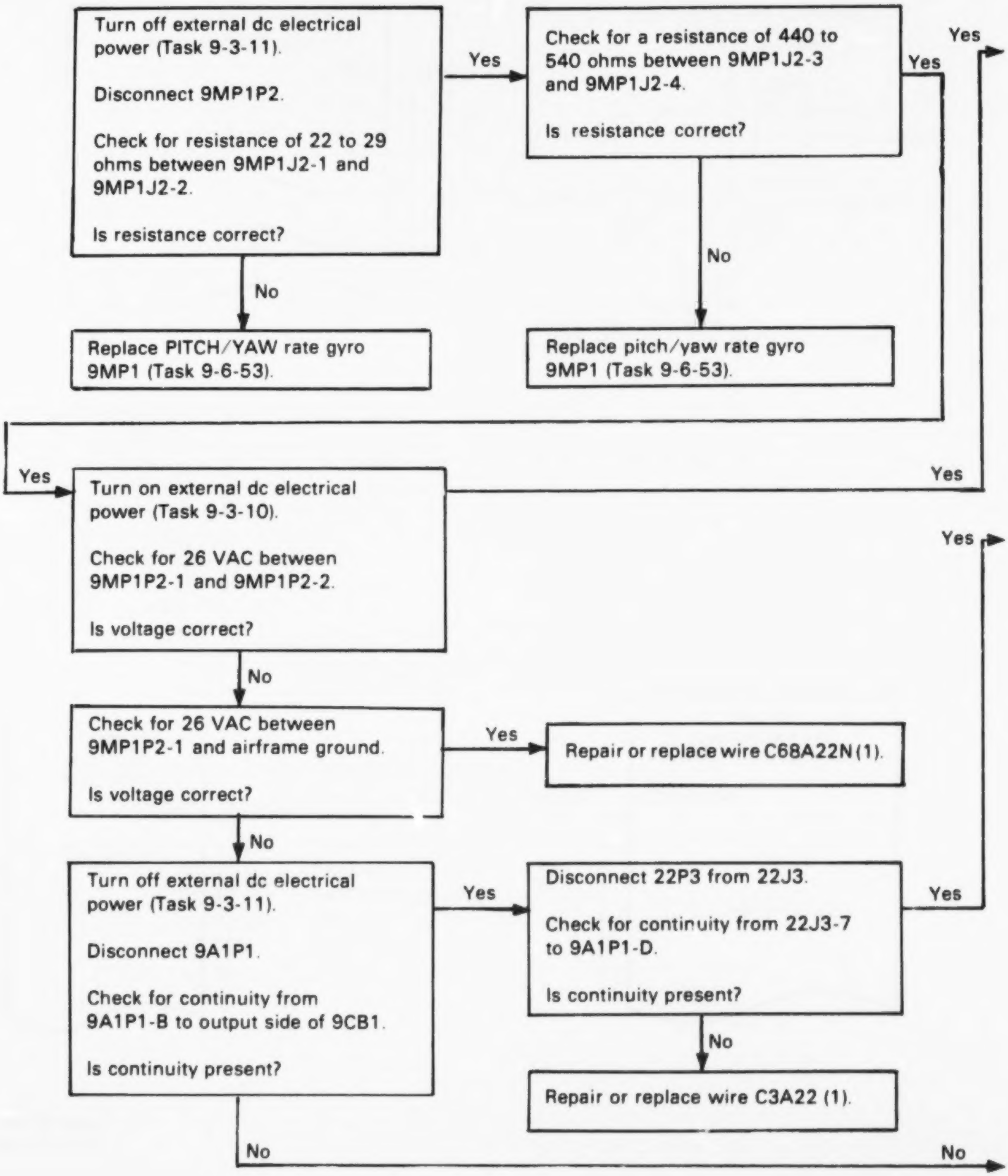
Roll/yaw gyro 9MP2 was defective.

218. ERROR CODE 0400 WORD 1 ROLL RATE GYRO FAILURE (CONT)


WINDSHIELD POST DISCONNECT
22P3
22J3
8
7
6
5
C2B22(1)
C96A22(1)
C2A22(1)
C96B22(1)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
D
C
B
N
OFF
PWR
SCAS
9CB1
SCAS 26VAC
C96A22(1)
2
26 VAC BUS
C2B22(1)
C2B22(1)
9TB1
LG
LH
LM
LC
LZ
LS
LY
LD
LL
LR
C2J22(1)
C71A22N(1)
3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2J5
3431A2P5
ROLL RATE GYRO
HI
LO
1
2
P
9MP2
ROLL/YAW RATE GYRO
9MP2P1
9MP2J1
C2J22(1)
C73A22N(1)
C31A24(3)WHT
C31A24(3)BLU
P
1
2
4
3
5
6
HI
LO
HI
LO
EXCITATION
ROLL RATE

406475-243
406-475-606

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9MP1P2.

Check for resistance of 22 to 29 ohms between 9MP1J2-1 and 9MP1J2-2.

Is resistance correct?

Replace PITCH/YAW rate gyro 9MP1 (Task 9-6-53).

Check for a resistance of 440 to 540 ohms between 9MP1J2-3 and 9MP1J2-4.

Is resistance correct?

Replace pitch/yaw rate gyro 9MP1 (Task 9-6-53).

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9MP1P2-1 and 9MP1P2-2.

Is voltage correct?

Check for 26 VAC between 9MP1P2-1 and airframe ground.

Is voltage correct?

Repair or replace wire C68A22N (1).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

Check for continuity from 9A1P1-B to output side of 9CB1.

Is continuity present?

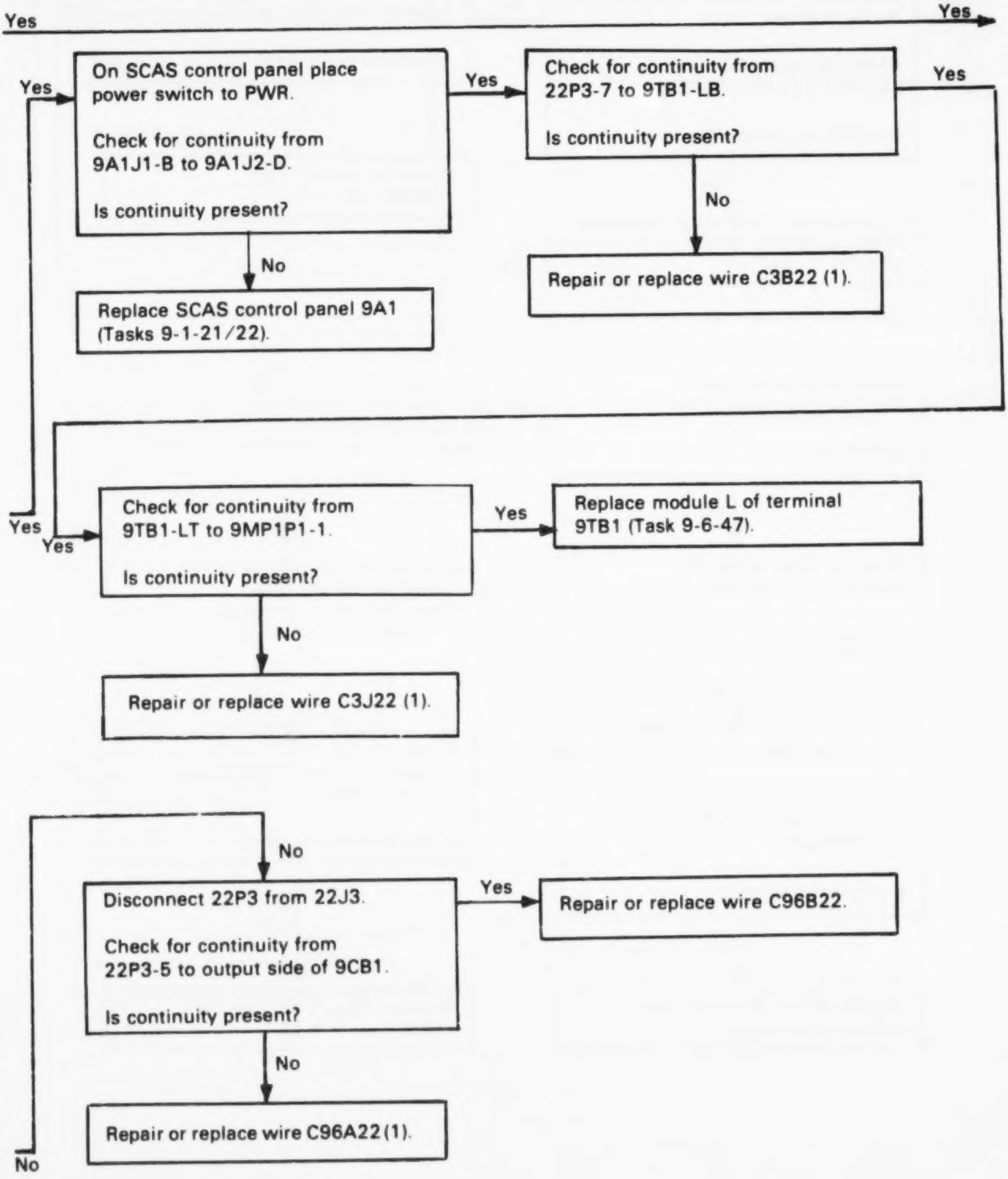
Disconnect 22P3 from 22J3.

Check for continuity from 22J3-7 to 9A1P1-D.

Is continuity present?

Repair or replace wire C3A22 (1).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)



On SCAS control panel place power switch to PWR.

Check for continuity from 9A1J1-B to 9A1J2-D.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Check for continuity from 22P3-7 to 9TB1-LB.

Is continuity present?

Repair or replace wire C3B22 (1).

Check for continuity from 9TB1-LT to 9MP1P1-1.

Is continuity present?

Replace module L of terminal 9TB1 (Task 9-6-47).

Repair or replace wire C3J22 (1).

Disconnect 22P3 from 22J3.

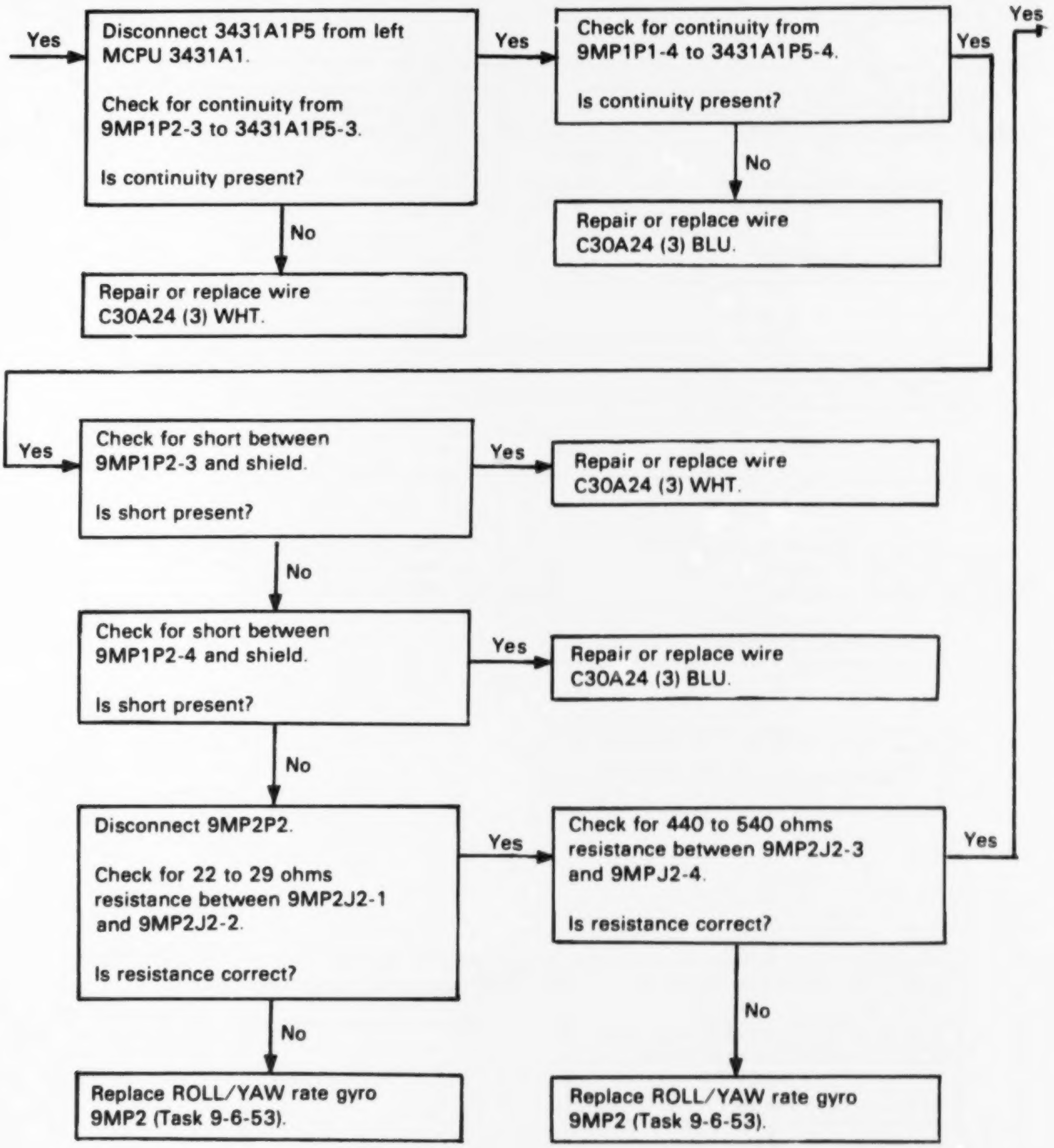
Check for continuity from 22P3-5 to output side of 9CB1.

Is continuity present?

Repair or replace wire C96B22.

Repair or replace wire C96A22(1).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)



Disconnect 3431A1P5 from left MCPU 3431A1.

Check for continuity from 9MP1P2-3 to 3431A1P5-3.

Is continuity present?

Repair or replace wire C30A24 (3) WHT.

Check for continuity from 9MP1P1-4 to 3431A1P5-4.

Is continuity present?

Repair or replace wire C30A24 (3) BLU.

Check for short between 9MP1P2-3 and shield.

Is short present?

Repair or replace wire C30A24 (3) WHT.

Check for short between 9MP1P2-4 and shield.

Is short present?

Repair or replace wire C30A24 (3) BLU.

Disconnect 9MP2P2.

Check for 22 to 29 ohms resistance between 9MP2J2-1 and 9MP2J2-2.

Is resistance correct?

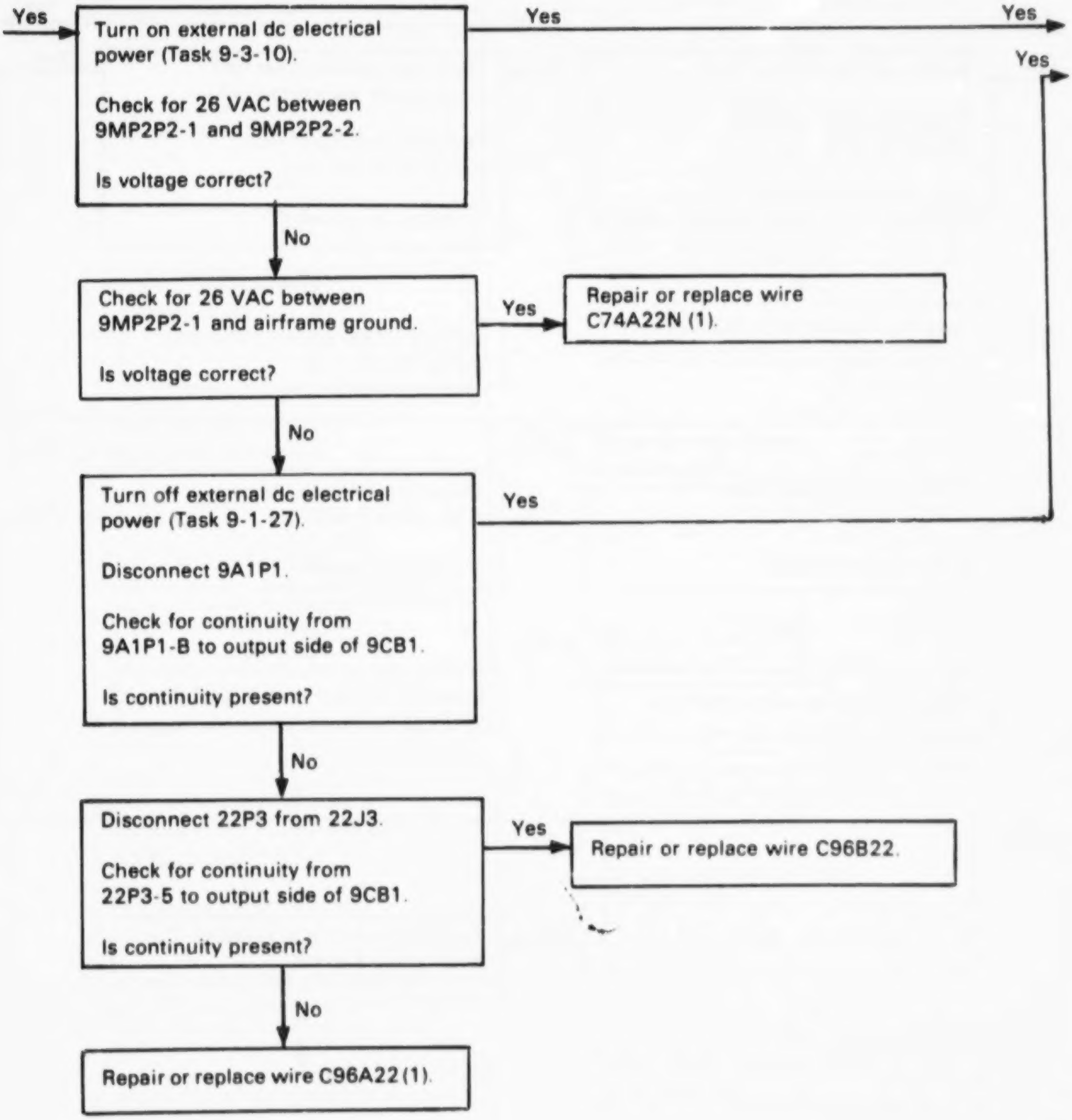
Replace ROLL/YAW rate gyro 9MP2 (Task 9-6-53).

Check for 440 to 540 ohms resistance between 9MP2J2-3 and 9MPJ2-4.

Is resistance correct?

Replace ROLL/YAW rate gyro 9MP2 (Task 9-6-53).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)



Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 9MP2P2-1 and 9MP2P2-2.

Is voltage correct?

Check for 26 VAC between 9MP2P2-1 and airframe ground.

Is voltage correct?

Repair or replace wire C74A22N (1).

Turn off external dc electrical power (Task 9-1-27).

Disconnect 9A1P1.

Check for continuity from 9A1P1-B to output side of 9CB1.

Is continuity present?

Disconnect 22P3 from 22J3.

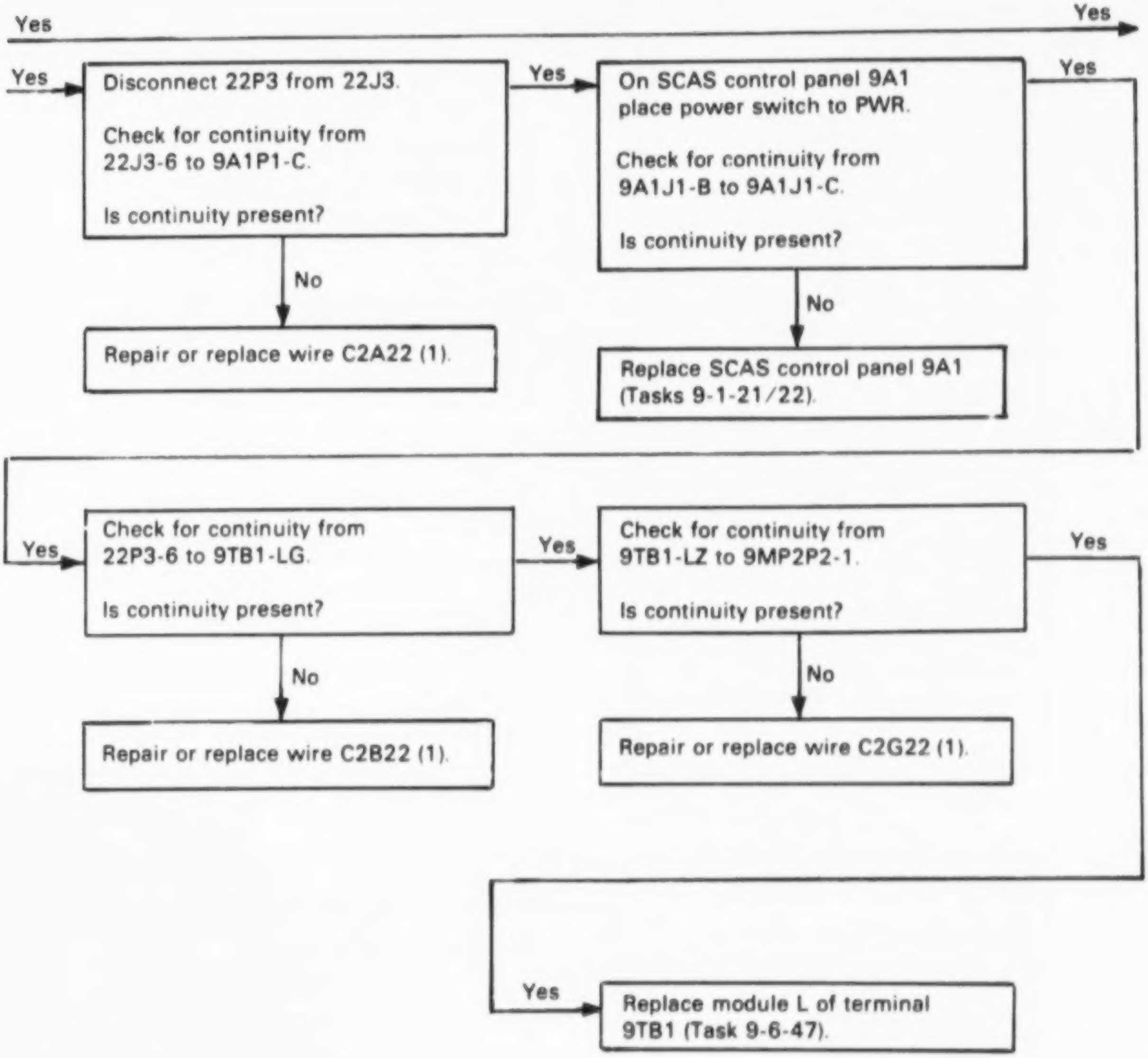
Check for continuity from 22P3-5 to output side of 9CB1.

Is continuity present?

Repair or replace wire C96B22.

Repair or replace wire C96A22 (1).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)



Disconnect 22P3 from 22J3.

Check for continuity from 22J3-6 to 9A1P1-C.

Is continuity present?

Repair or replace wire C2A22 (1).

On SCAS control panel 9A1 place power switch to PWR.

Check for continuity from 9A1J1-B to 9A1J1-C.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Check for continuity from 22P3-6 to 9TB1-LG.

Is continuity present?

Repair or replace wire C2B22 (1).

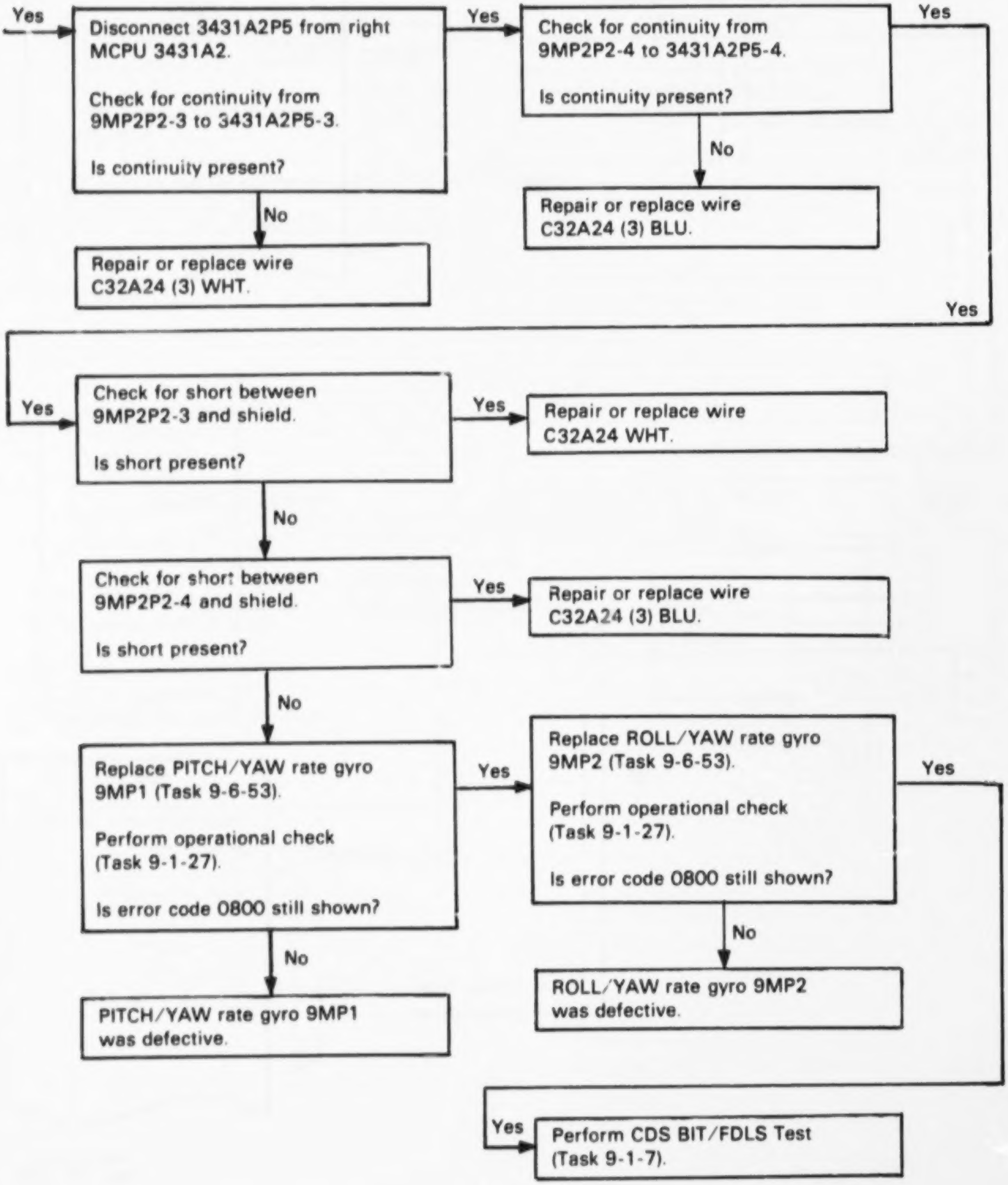
Check for continuity from 9TB1-LZ to 9MP2P2-1.

Is continuity present?

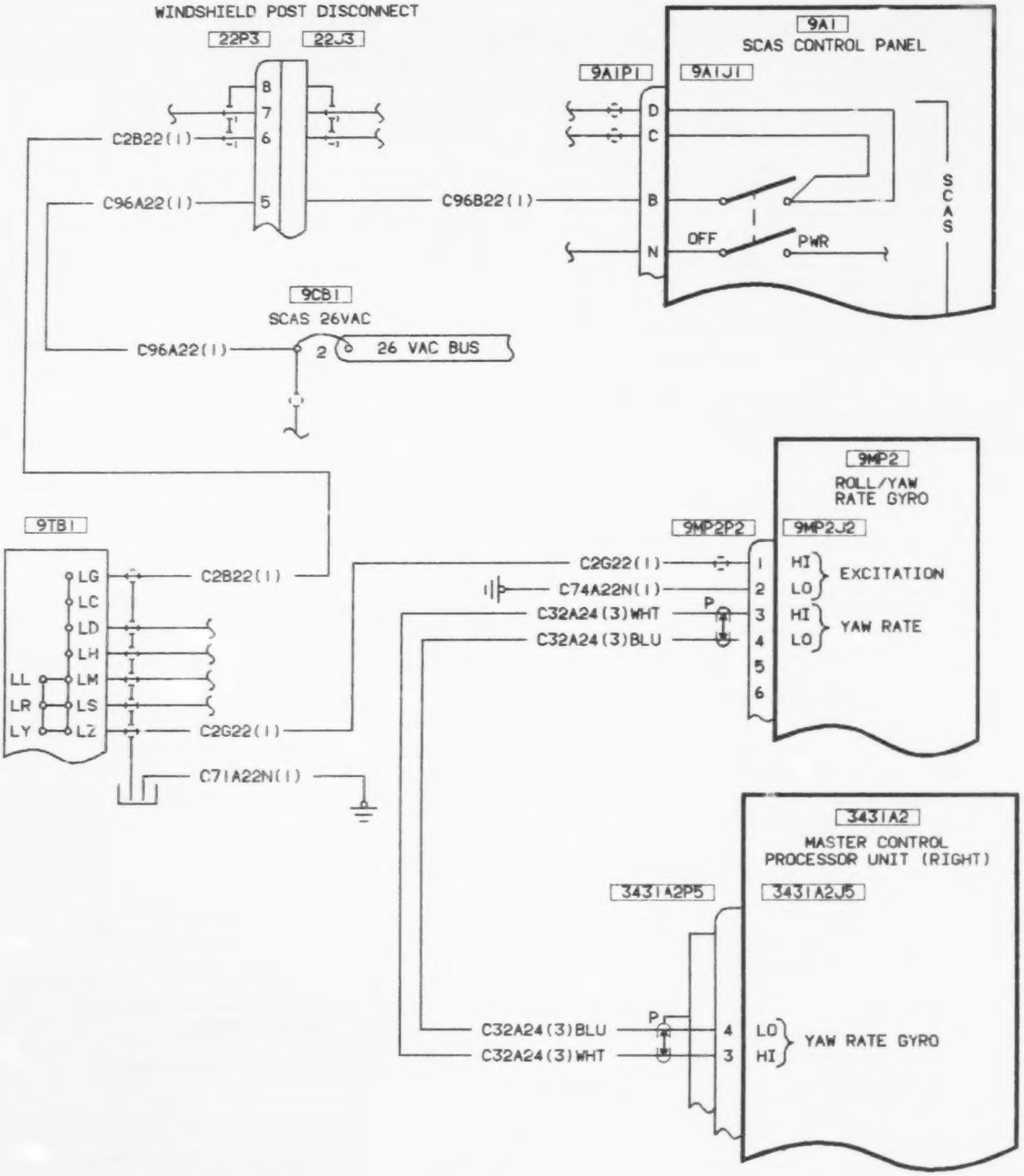
Repair or replace wire C2G22 (1).

Replace module L of terminal 9TB1 (Task 9-6-47).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)

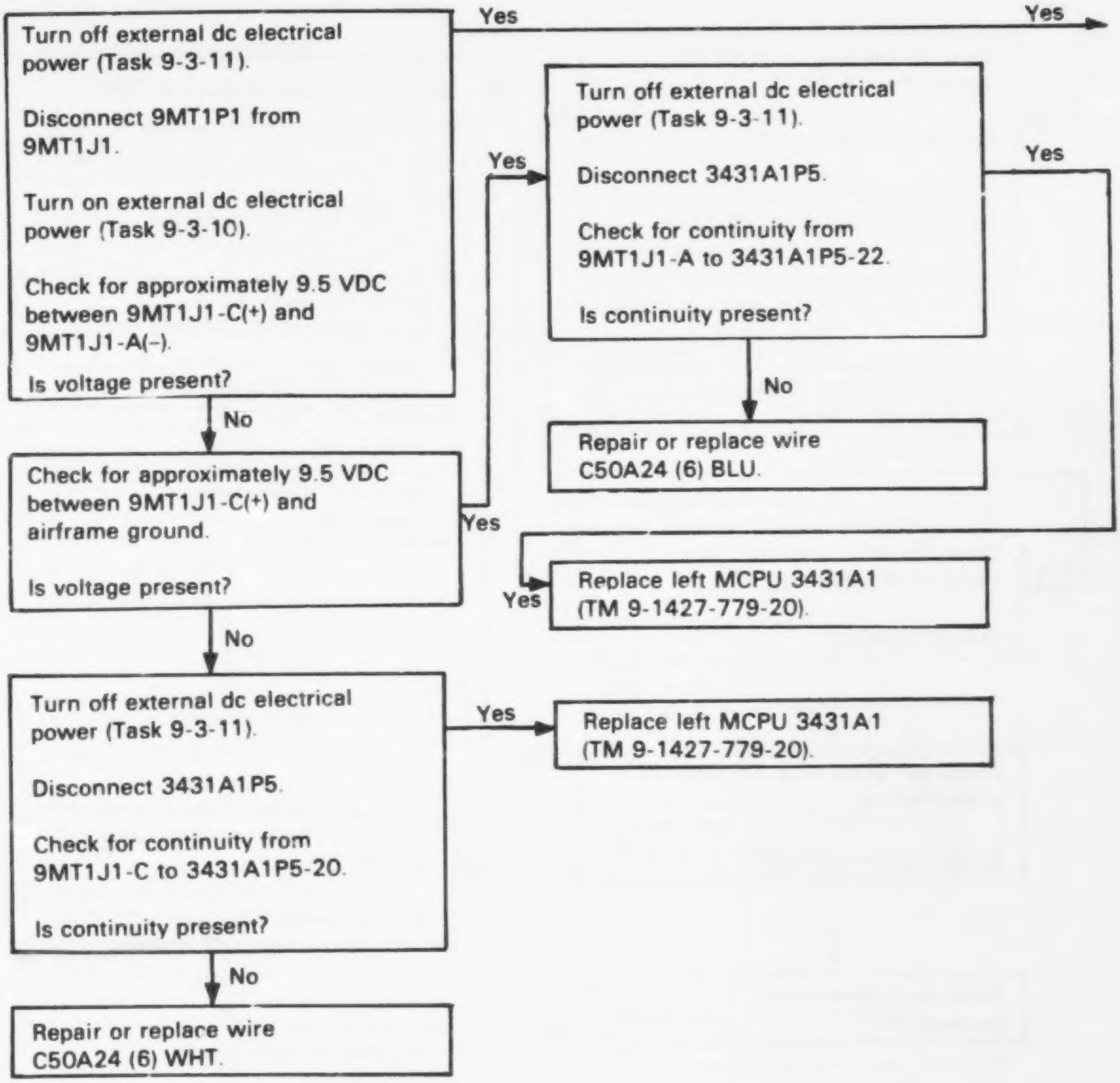

Yes
Disconnect 3431A2P5 from right MCPU 3431A2.
Check for continuity from 9MP2P2-3 to 3431A2P5-3.
Is continuity present?
No
Repair or replace wire C32A24 (3) WHT.
Yes
Check for continuity from 9MP2P2-4 to 3431A2P5-4.
Is continuity present?
No
Repair or replace wire C32A24 (3) BLU.
Yes
Yes
Yes
Check for short between 9MP2P2-3 and shield.
Is short present?
Yes
Repair or replace wire C32A24 WHT.
No
Check for short between 9MP2P2-4 and shield.
Is short present?
Yes
Repair or replace wire C32A24 (3) BLU.
No
Replace PITCH/YAW rate gyro 9MP1 (Task 9-6-53).
Perform operational check (Task 9-1-27).
Is error code 0800 still shown?
No
PITCH/YAW rate gyro 9MP1 was defective.
Yes
Replace ROLL/YAW rate gyro 9MP2 (Task 9-6-53).
Perform operational check (Task 9-1-27).
Is error code 0800 still shown?
No
ROLL/YAW rate gyro 9MP2 was defective.
Yes
Yes
Perform CDS BIT/FDLS Test (Task 9-1-7).

219. ERROR CODE 0800 WORD 1 YAW RATE GYRO FAILURE (CONT)


WINDSHIELD POST DISCONNECT
22P3
22J3
B
7
6
5
C2B22(1)
C96A22(1)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
D
C
B
N
C96B22(1)
OFF
PWR
SCAS
9CB1
SCAS 26VAC
C96A22(1)
2
26 VAC BUS
9TB1
LG
LC
LD
LH
LL
LM
LR
LS
LY
LZ
C2B22(1)
C2G22(1)
C71A22N(1)
9MP2
ROLL/YAW RATE GYRO
9MP2P2
9MP2J2
C2G22(1)
C74A22N(1)
C32A24(3)WHT
C32A24(3)BLU
P
1
2
3
4
5
6
HI
LO
EXCITATION
HI
LO
YAW RATE
3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P5
3431A2J5
C32A24(3)BLU
C32A24(3)WHT
P
4
3
LO
HI
YAW RATE GYRO

406475-244
406-475-606A

220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9MT1P1 from 9MT1J1.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT1J1-C(+) and 9MT1J1-A(–).

Is voltage present?

Check for approximately 9.5 VDC between 9MT1J1-C(+) and airframe ground.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT1J1-A to 3431A1P5-22.

Is continuity present?

Repair or replace wire C50A24 (6) BLU.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

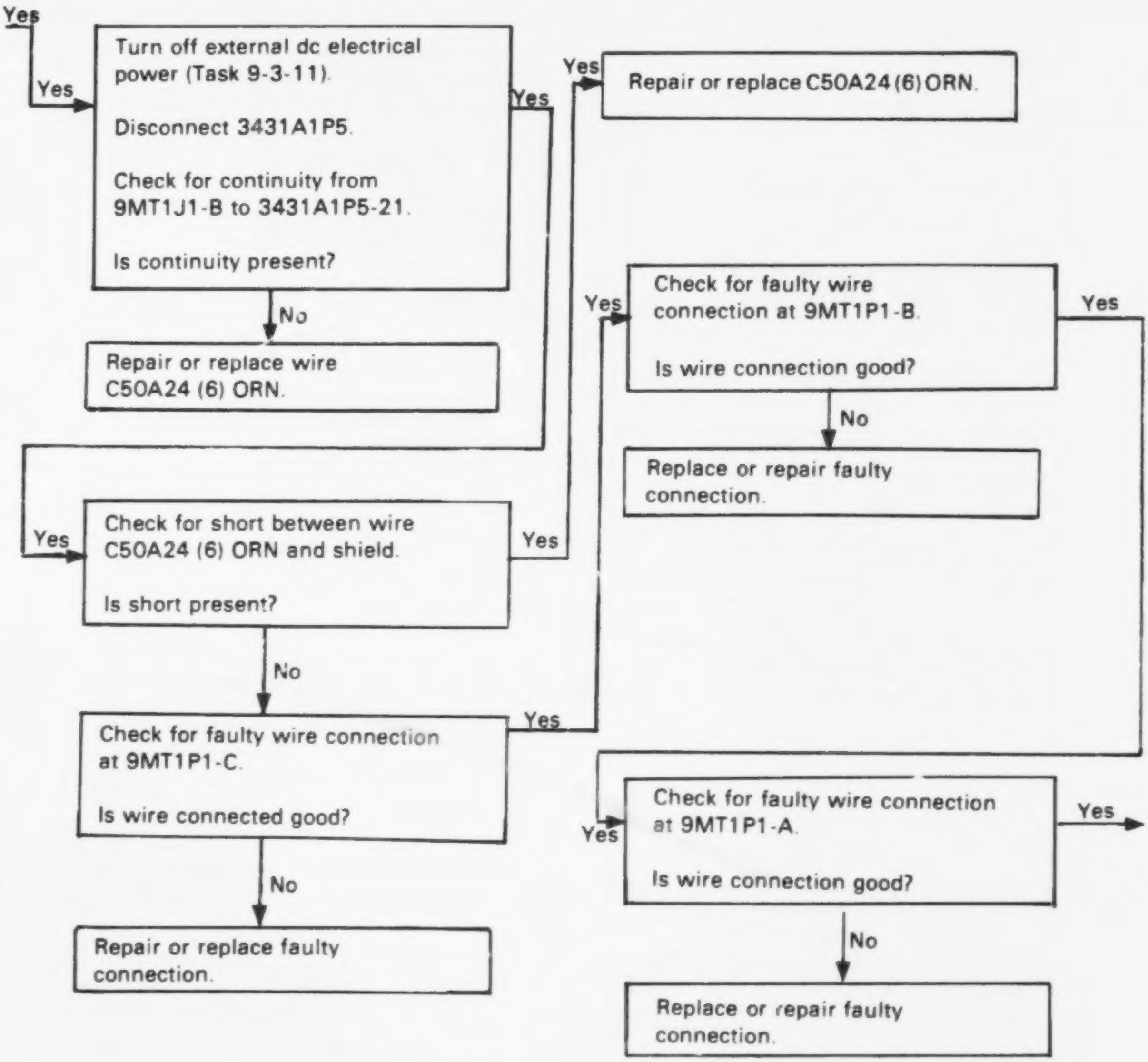
Check for continuity from 9MT1J1-C to 3431A1P5-20.

Is continuity present?

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Repair or replace wire C50A24 (6) WHT.

220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT1J1-B to 3431A1P5-21.

Is continuity present?

Repair or replace wire C50A24 (6) ORN.

Repair or replace C50A24 (6) ORN.

Check for short between wire C50A24 (6) ORN and shield.

Is short present?

Check for faulty wire connection at 9MT1P1-C.

Is wire connected good?

Repair or replace faulty connection.

Check for faulty wire connection at 9MT1P1-B.

Is wire connection good?

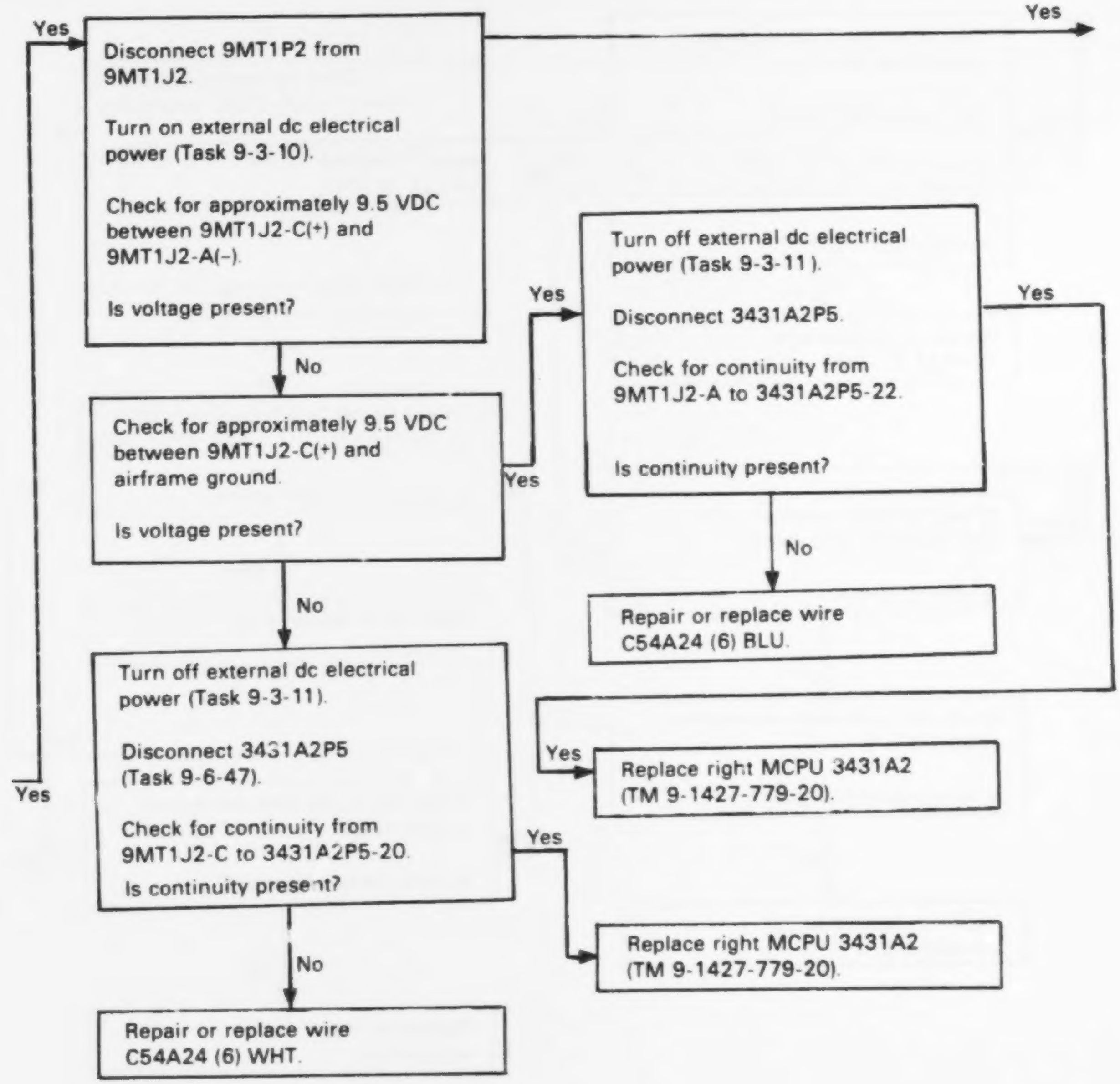
Replace or repair faulty connection.

Check for faulty wire connection at 9MT1P1-A.

Is wire connection good?

Replace or repair faulty connection.

220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT1P2 from 9MT1J2.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT1J2-C(+) and 9MT1J2-A(–).

Is voltage present?

Check for approximately 9.5 VDC between 9MT1J2-C(+) and airframe ground.

Is voltage present?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5 (Task 9-6-47).

Check for continuity from 9MT1J2-C to 3431A2P5-20.

Is continuity present?

Repair or replace wire C54A24 (6) WHT.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT1J2-A to 3431A2P5-22.

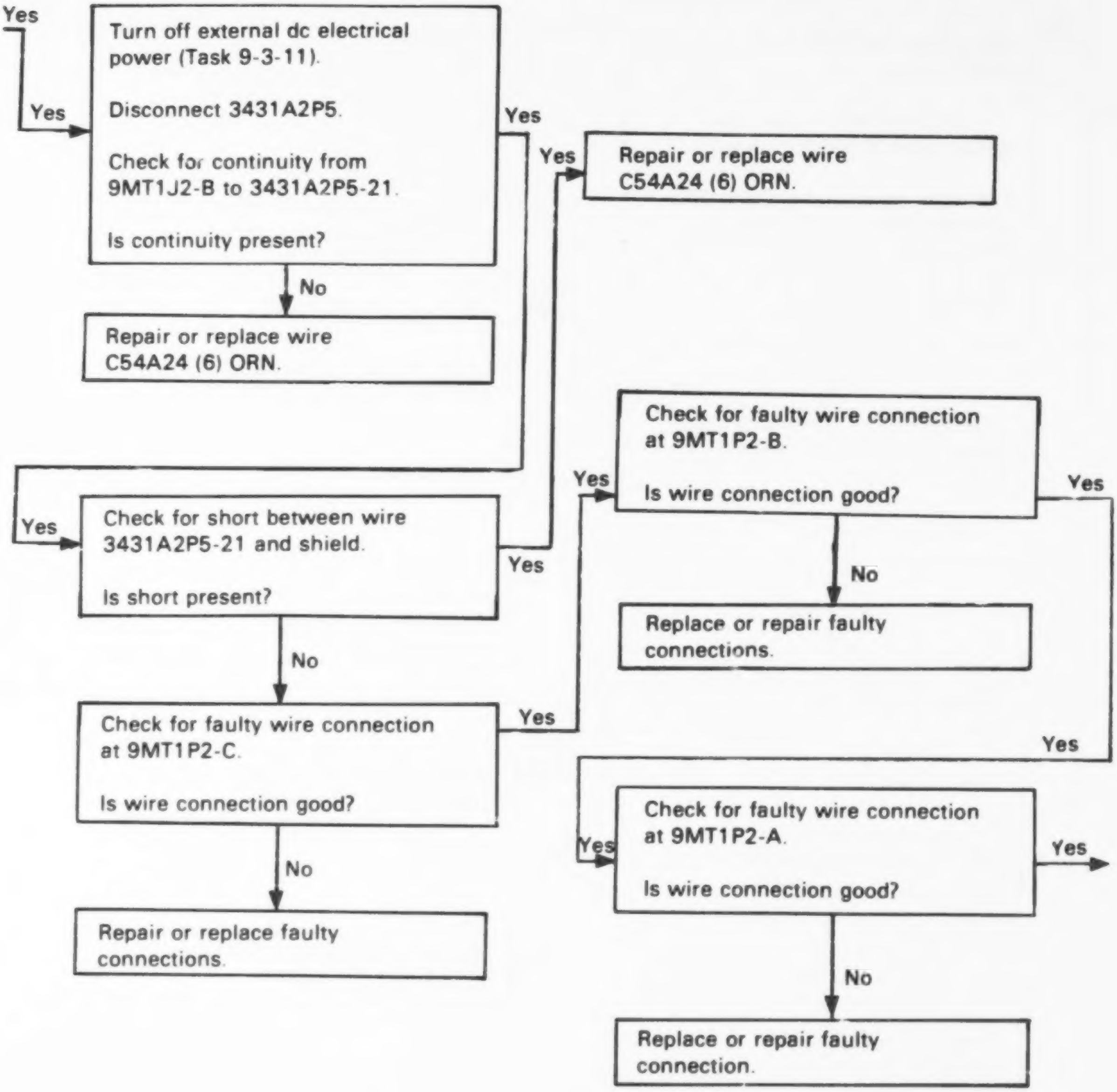
Is continuity present?

Repair or replace wire C54A24 (6) BLU.

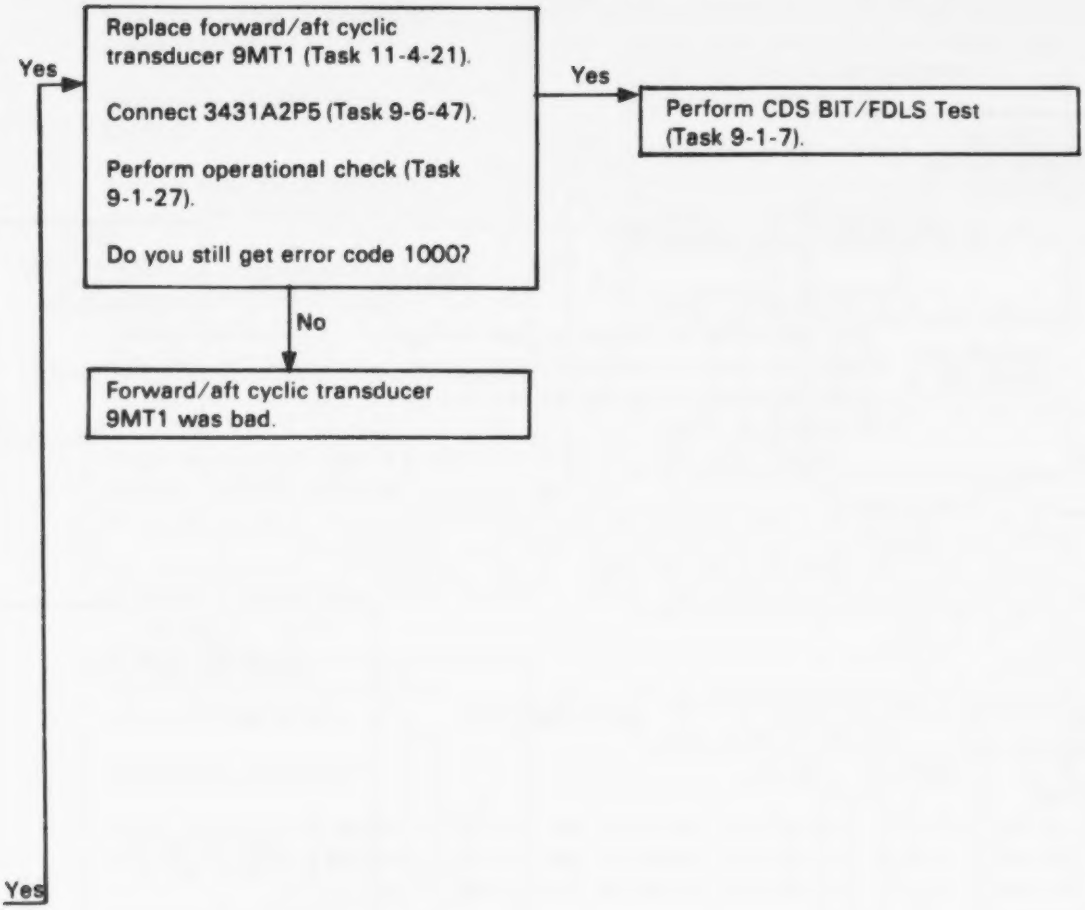
Replace right MCPU 3431A2 (TM 9-1427-779-20).

Replace right MCPU 3431A2 (TM 9-1427-779-20).

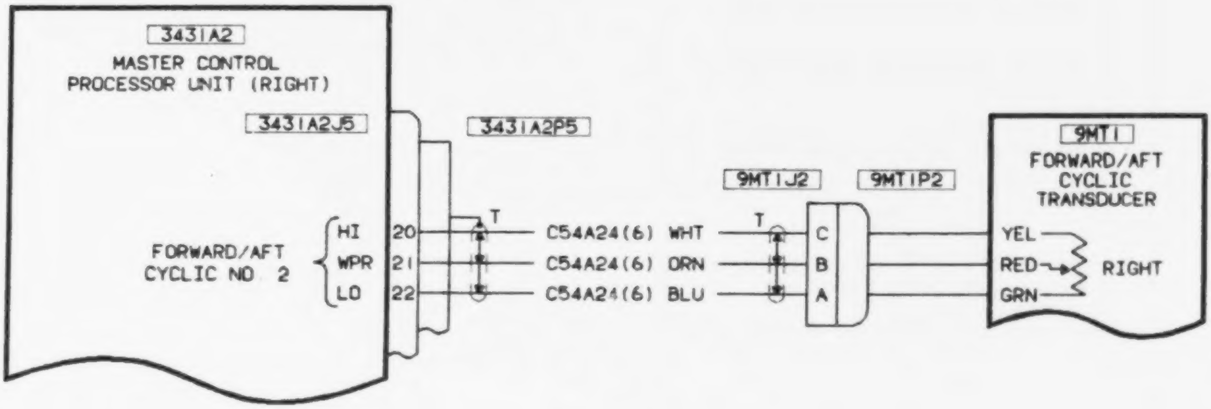
220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)

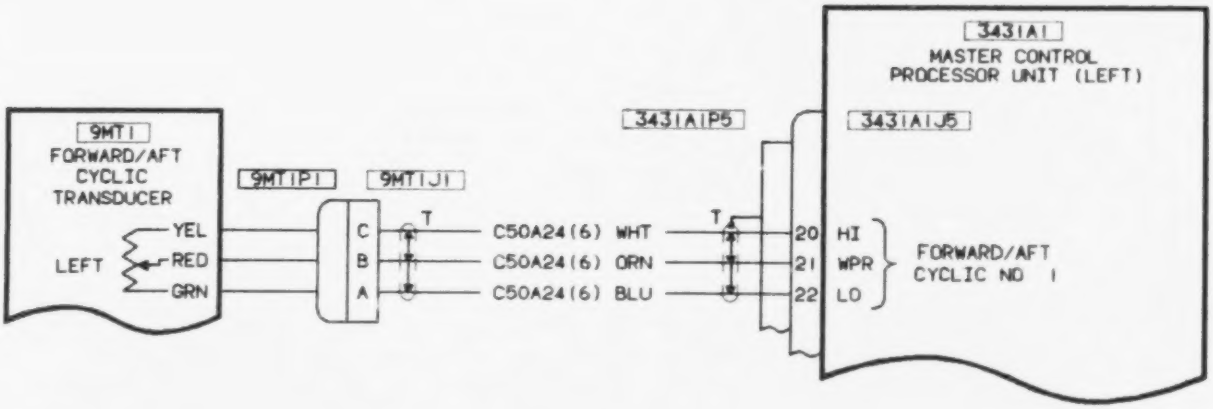

Yes
Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431A2P5.
Check for continuity from 9MT1J2-B to 3431A2P5-21.
Is continuity present?
Yes
Yes
Repair or replace wire C54A24 (6) ORN.
No
Repair or replace wire C54A24 (6) ORN.
Yes
Check for short between wire 3431A2P5-21 and shield.
Is short present?
Yes
No
Check for faulty wire connection at 9MT1P2-C.
Is wire connection good?
Yes
No
Repair or replace faulty connections.
Yes
Check for faulty wire connection at 9MT1P2-B.
Is wire connection good?
Yes
No
Replace or repair faulty connections.
Yes
Yes
Check for faulty wire connection at 9MT1P2-A.
Is wire connection good?
Yes
No
Replace or repair faulty connection.

220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Replace forward/aft cyclic transducer 9MT1 (Task 11-4-21).
Connect 3431A2P5 (Task 9-6-47).
Perform operational check (Task 9-1-27).
Do you still get error code 1000?
Yes
Perform CDS BIT/FDLS Test (Task 9-1-7).
No
Forward/aft cyclic transducer 9MT1 was bad.
Yes

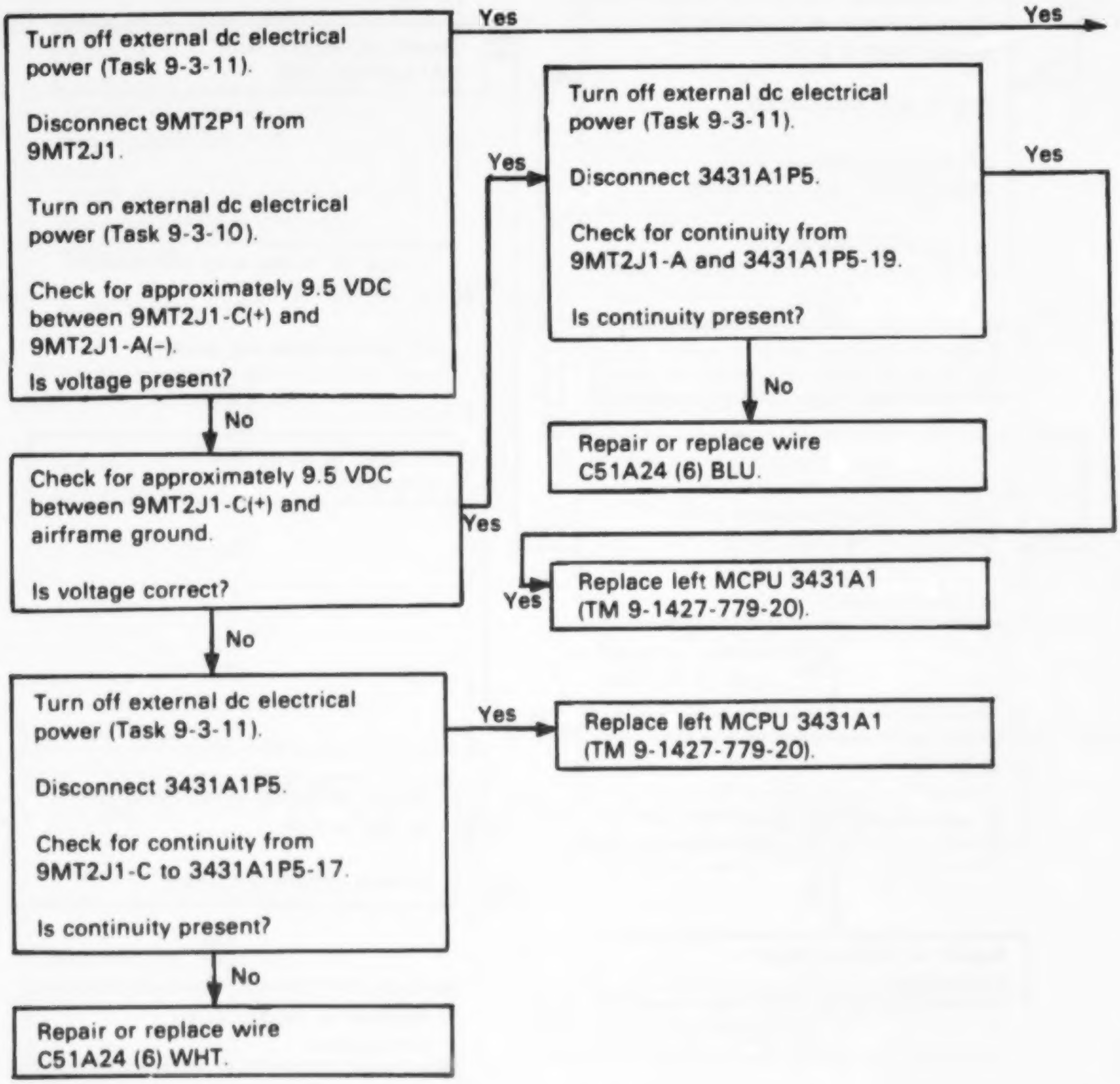
220. ERROR CODE 1000 WORD 1 FORWARD/AFT CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)


3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2J5
3431A2P5
FORWARD/AFT CYCLIC NO. 2
HI
WPR
LO
20
21
22
T
C54A24(6) WHT
C54A24(6) ORN
C54A24(6) BLU
9MT1J2
9MT1P2
C
B
A
9MT1
FORWARD/AFT CYCLIC TRANSDUCER
YEL
RED
GRN
RIGHT


9MT1
FORWARD/AFT CYCLIC TRANSDUCER
LEFT
YEL
RED
GRN
9MT1P1
9MT1J1
C
B
A
T
C50A24(6) WHT
C50A24(6) ORN
C50A24(6) BLU
3431A1P5
3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1J5
20
21
22
HI
WPR
LO
FORWARD/AFT CYCLIC NO. 1

406475-245
406-475-606A

221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9MT2P1 from 9MT2J1.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT2J1-C(+) and 9MT2J1-A(−).

Is voltage present?

Check for approximately 9.5 VDC between 9MT2J1-C(+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT2J1-C to 3431A1P5-17.

Is continuity present?

Repair or replace wire C51A24 (6) WHT.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

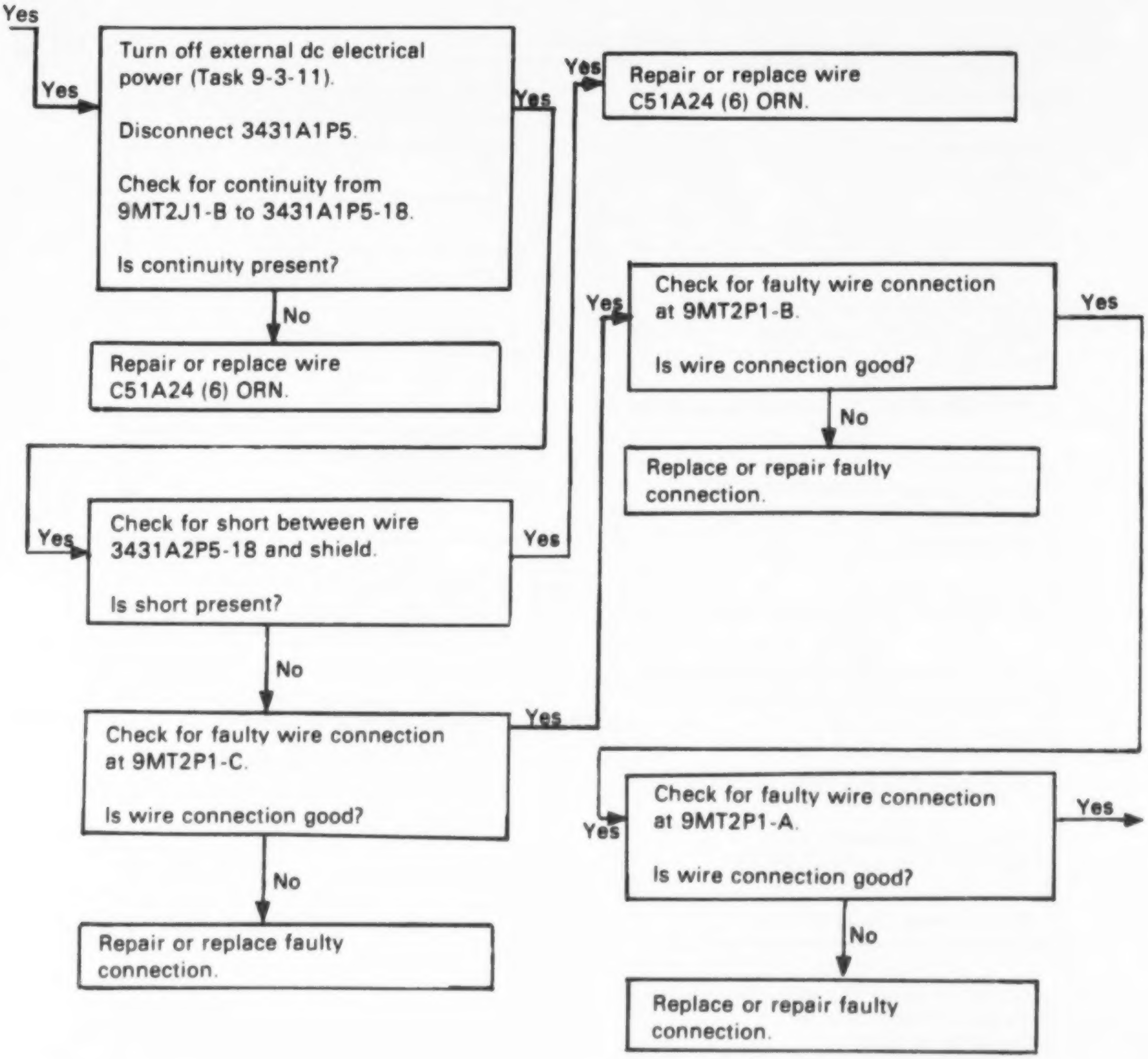
Check for continuity from 9MT2J1-A and 3431A1P5-19.

Is continuity present?

Repair or replace wire C51A24 (6) BLU.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT2J1-B to 3431A1P5-18.

Is continuity present?

Repair or replace wire C51A24 (6) ORN.

Repair or replace wire C51A24 (6) ORN.

Check for short between wire 3431A2P5-18 and shield.

Is short present?

Check for faulty wire connection at 9MT2P1-C.

Is wire connection good?

Repair or replace faulty connection.

Check for faulty wire connection at 9MT2P1-B.

Is wire connection good?

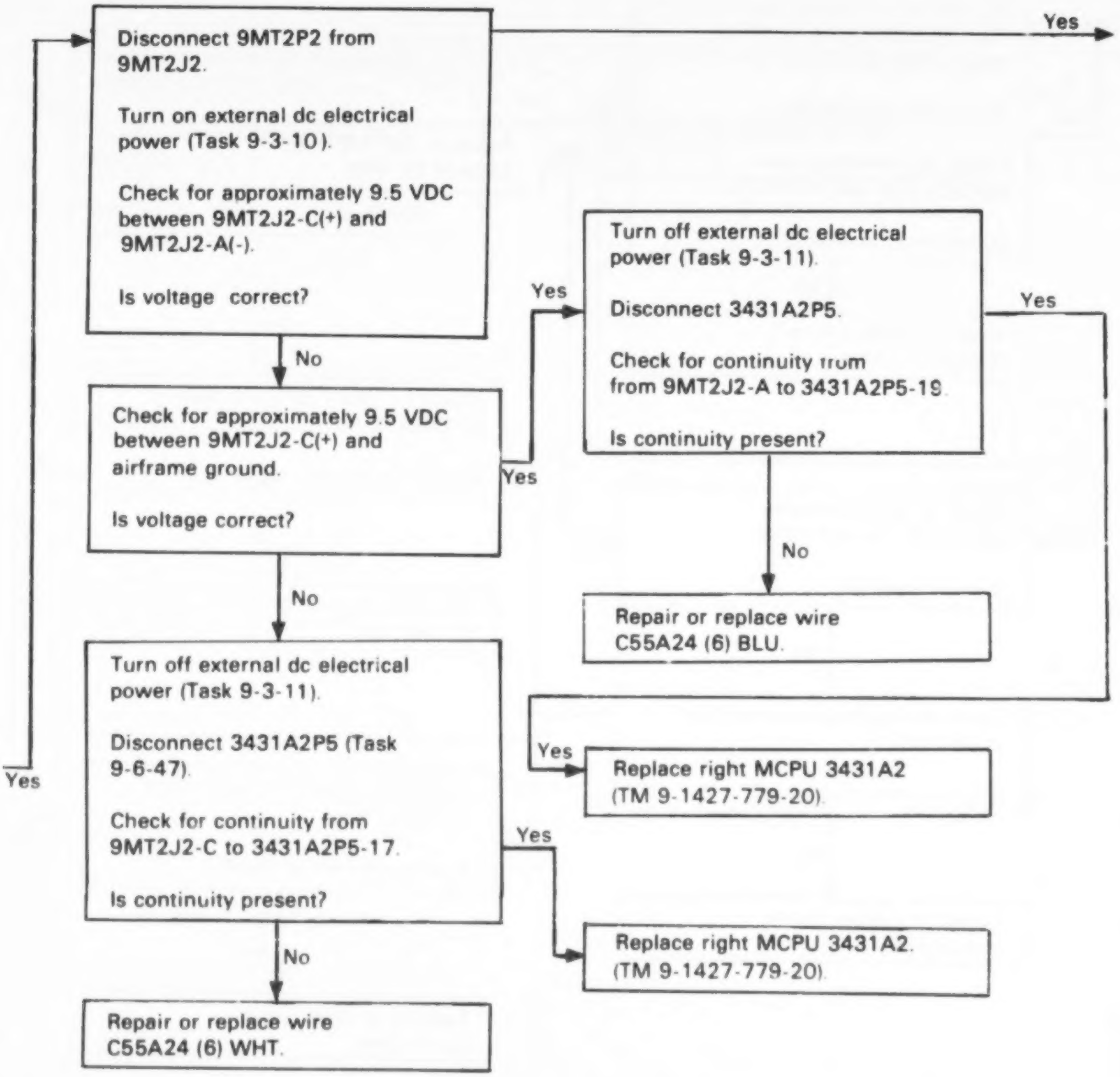
Replace or repair faulty connection.

Check for faulty wire connection at 9MT2P1-A.

Is wire connection good?

Replace or repair faulty connection.

221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT2P2 from 9MT2J2.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT2J2-C(+) and 9MT2J2-A(-).

Is voltage correct?

Check for approximately 9.5 VDC between 9MT2J2-C(+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from from 9MT2J2-A to 3431A2P5-19.

Is continuity present?

Repair or replace wire C55A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5 (Task 9-6-47).

Check for continuity from 9MT2J2-C to 3431A2P5-17.

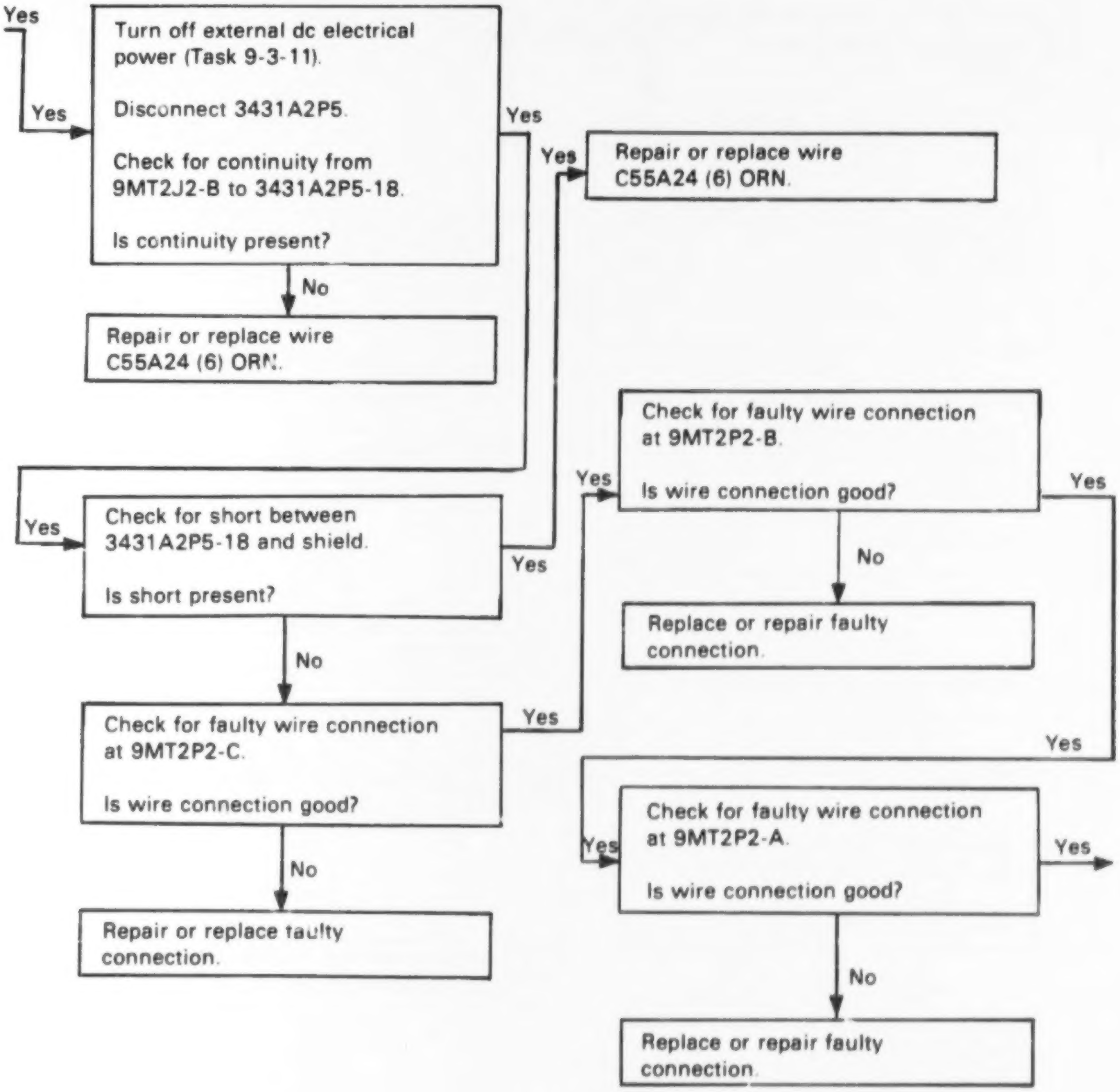
Is continuity present?

Replace right MCPU 3431A2 (TM 9-1427-779-20).

Replace right MCPU 3431A2. (TM 9-1427-779-20).

Repair or replace wire C55A24 (6) WHT.

221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)


Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT2J2-B to 3431A2P5-18.

Is continuity present?

Repair or replace wire C55A24 (6) ORN.

Repair or replace wire C55A24 (6) ORN.

Check for short between 3431A2P5-18 and shield.

Is short present?

Check for faulty wire connection at 9MT2P2-C.

Is wire connection good?

Repair or replace faulty connection.

Check for faulty wire connection at 9MT2P2-B.

Is wire connection good?

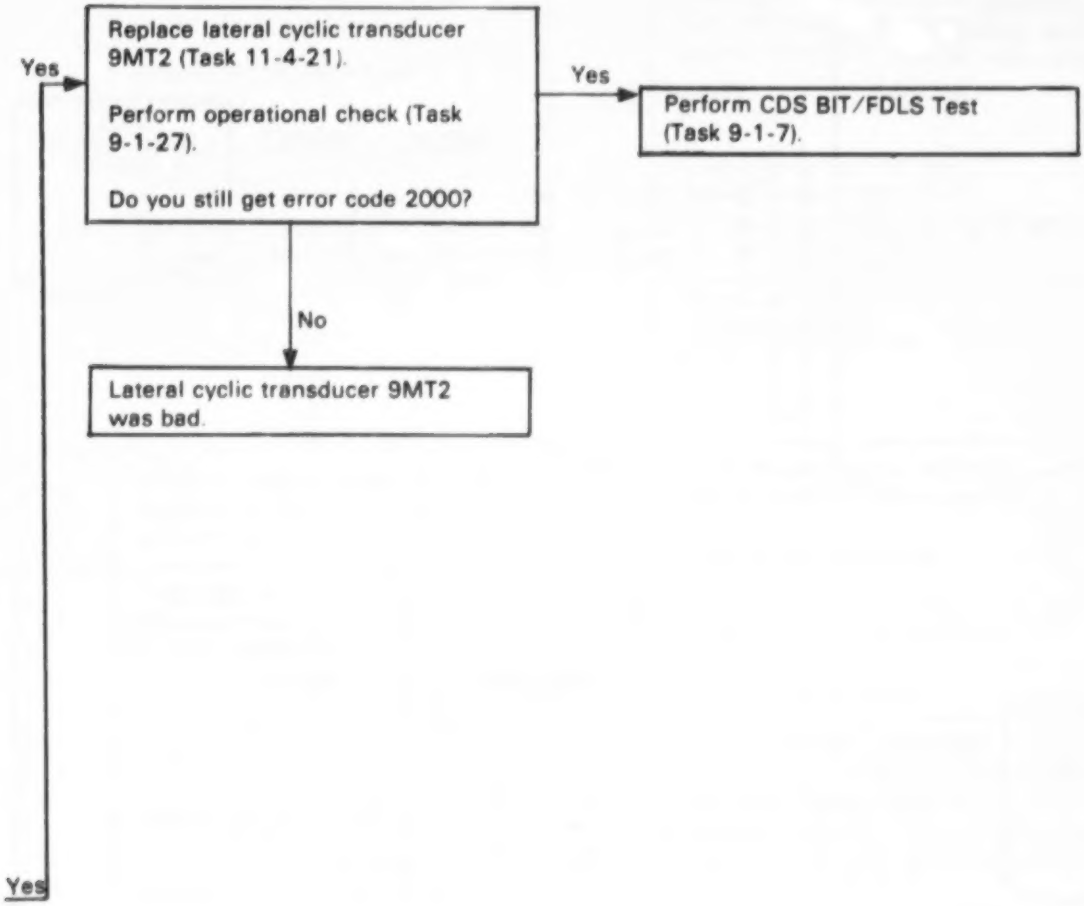
Replace or repair faulty connection.

Check for faulty wire connection at 9MT2P2-A.

Is wire connection good?

Replace or repair faulty connection.

221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)



Replace lateral cyclic transducer 9MT2 (Task 11-4-21).

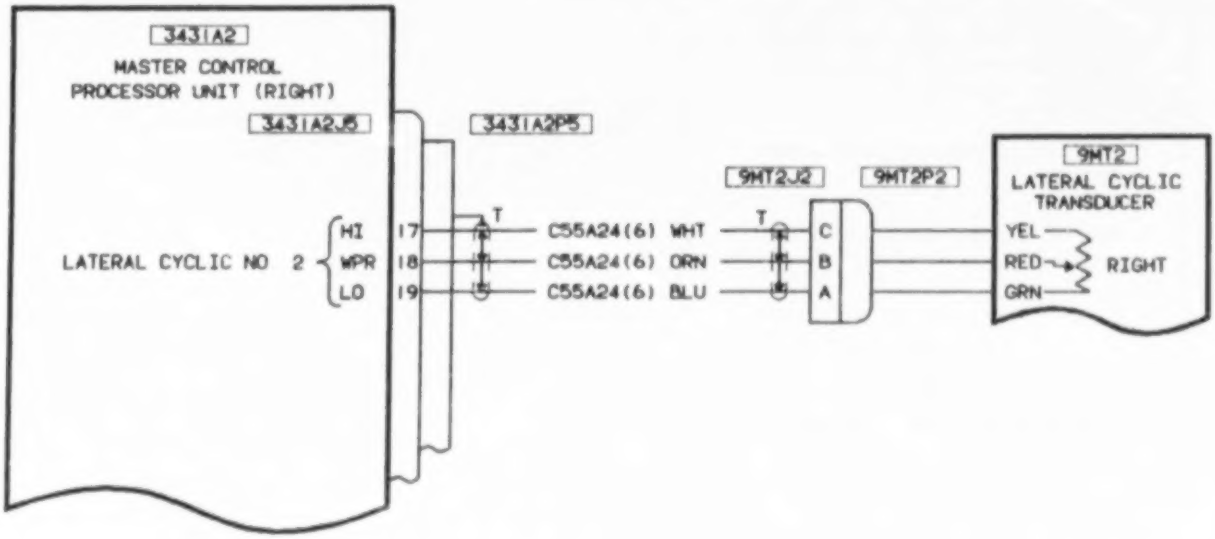
Perform operational check (Task 9-1-27).

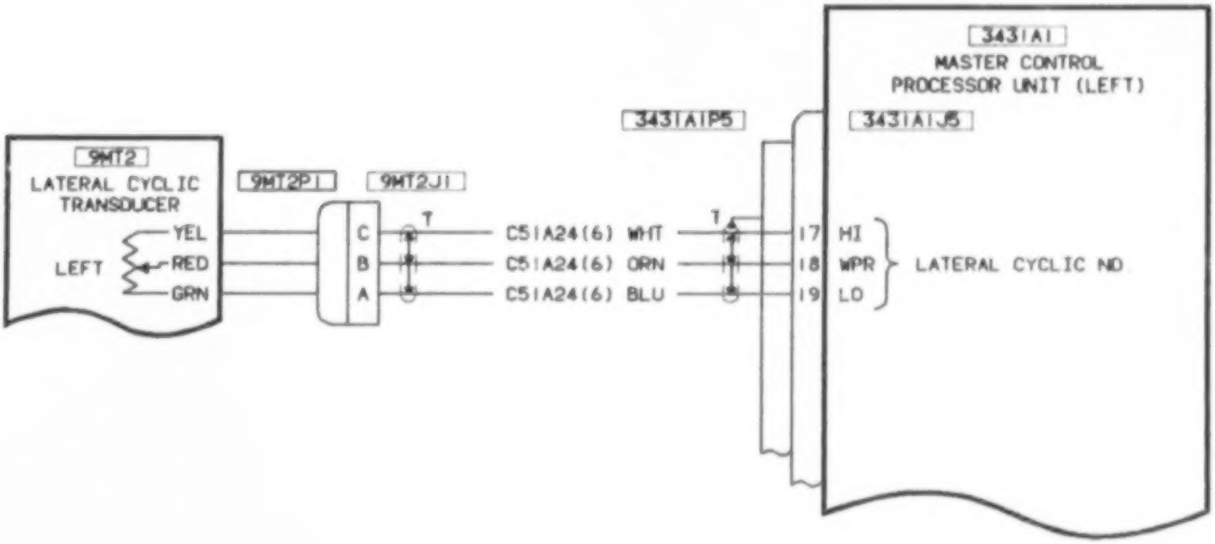
Do you still get error code 2000?

Perform CDS BIT/FDLS Test (Task 9-1-7).

Lateral cyclic transducer 9MT2 was bad.

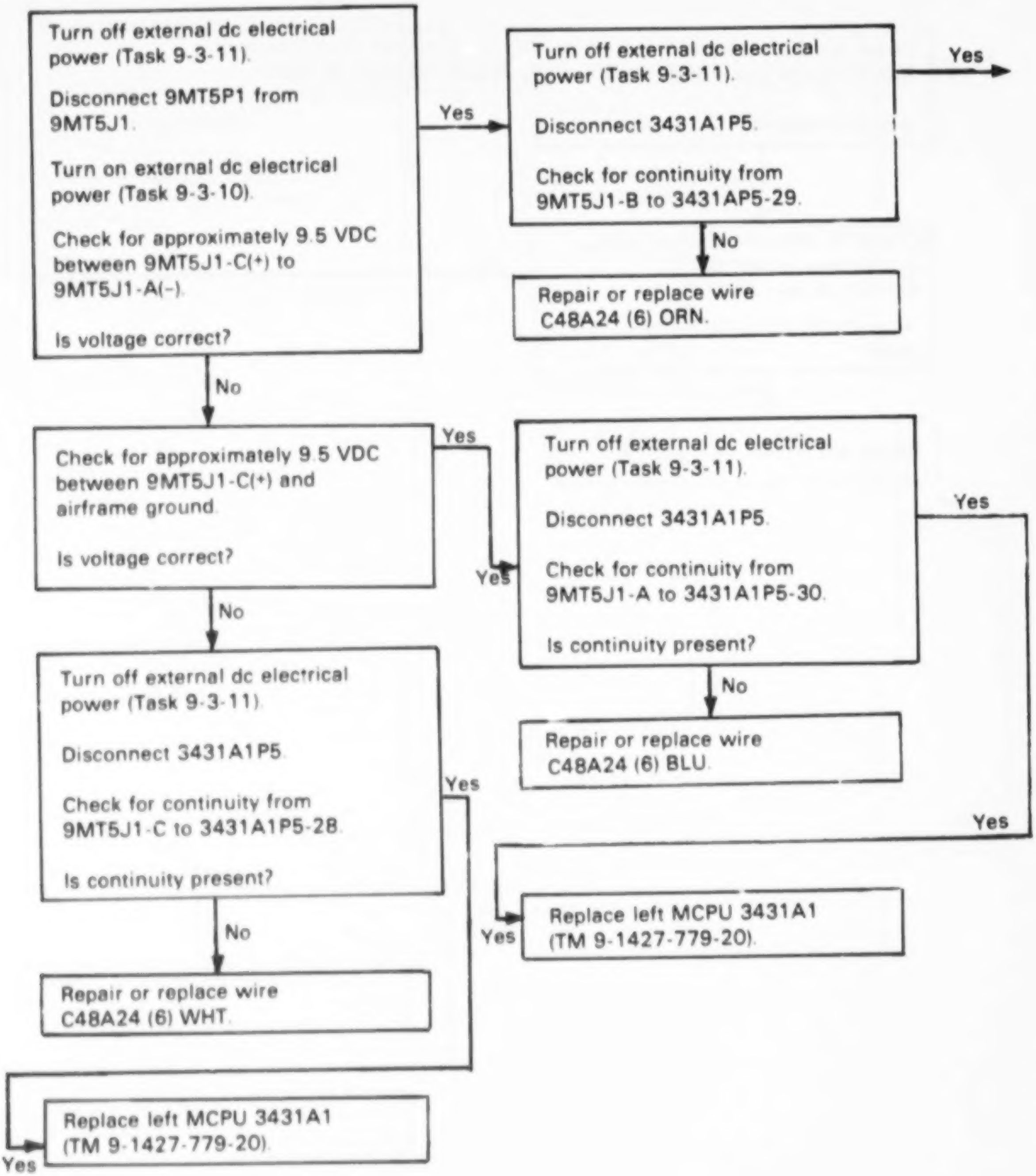
221. ERROR CODE 2000 WORD 1 LATERAL CYCLIC CONTROL MOTION TRANSDUCER FAILURE (CONT)


343IA2
MASTER CONTROL
PROCESSOR UNIT (RIGHT)
343IA2J5
343IA2P5
LATERAL CYCLIC NO 2
HI
WPR
LO
17
18
19
T
C55A24(6) WHT
C55A24(6) ORN
C55A24(6) BLU
T
9MT2J2
9MT2P2
C
B
A
9MT2
LATERAL CYCLIC
TRANSDUCER
YEL
RED
GRN
RIGHT

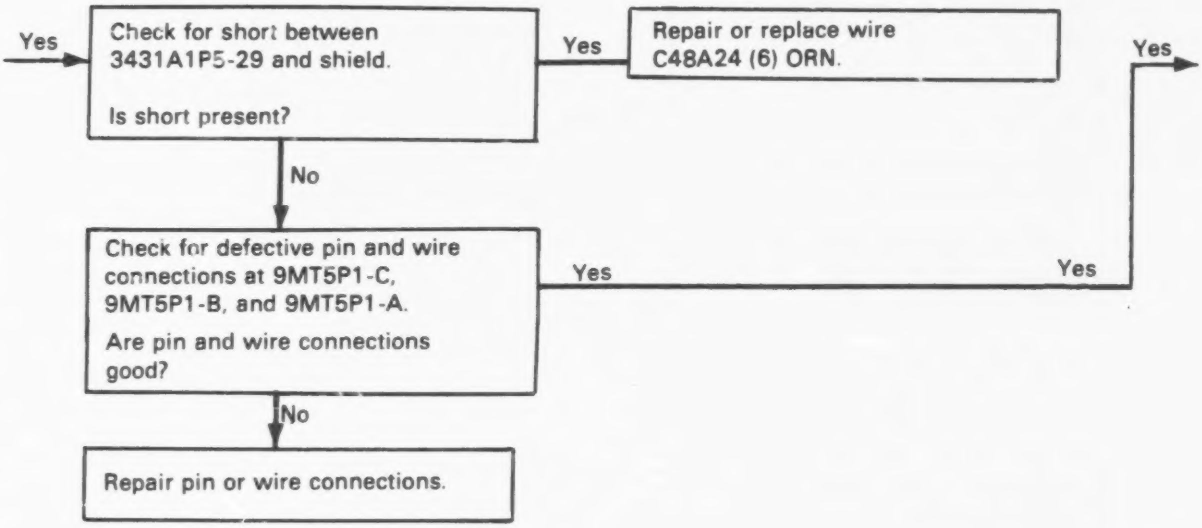

9MT2
LATERAL CYCLIC
TRANSDUCER
LEFT
YEL
RED
GRN
9MT2P1
9MT2J1
C
B
A
T
C51A24(6) WHT
C51A24(6) ORN
C51A24(6) BLU
T
343IA1P5
343IA1J5
343IA1
MASTER CONTROL
PROCESSOR UNIT (LEFT)
17
18
19
HI
WPR
LO
LATERAL CYCLIC NO

406475-246
406-475-606A

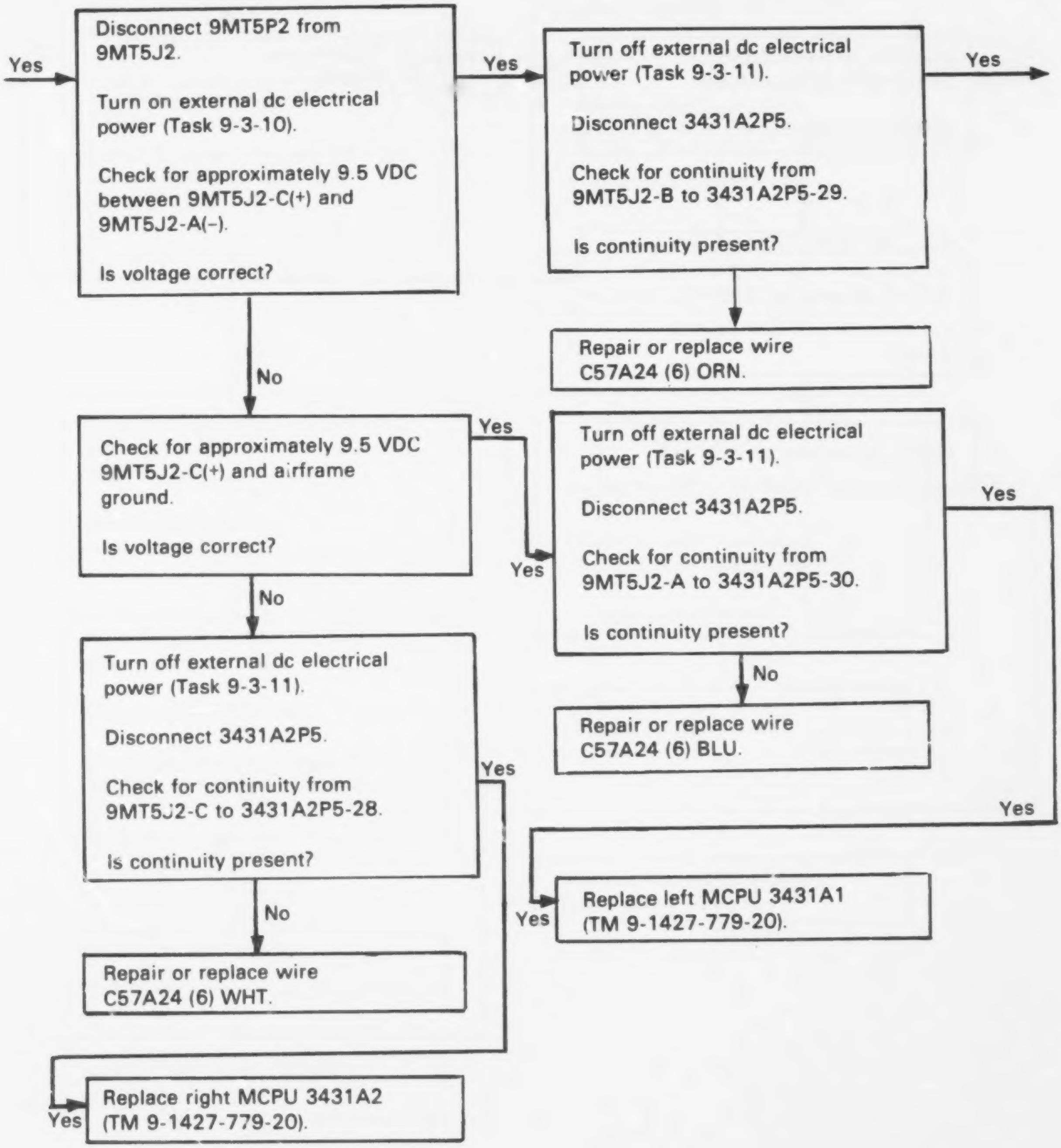
222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE


Turn off external dc electrical power (Task 9-3-11).
Disconnect 9MT5P1 from 9MT5J1.
Turn on external dc electrical power (Task 9-3-10).
Check for approximately 9.5 VDC between 9MT5J1-C(+) to 9MT5J1-A(-).
Is voltage correct?
Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431A1P5.
Check for continuity from 9MT5J1-B to 3431AP5-29.
Yes
No
Repair or replace wire C48A24 (6) ORN.
No
Check for approximately 9.5 VDC between 9MT5J1-C(+) and airframe ground.
Is voltage correct?
Yes
Yes
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431A1P5.
Check for continuity from 9MT5J1-A to 3431A1P5-30.
Is continuity present?
Yes
No
Repair or replace wire C48A24 (6) BLU.
No
Turn off external dc electrical power (Task 9-3-11).
Disconnect 3431A1P5.
Check for continuity from 9MT5J1-C to 3431A1P5-28.
Is continuity present?
Yes
Yes
Replace left MCPU 3431A1 (TM 9-1427-779-20).
Yes
No
Repair or replace wire C48A24 (6) WHT.
Replace left MCPU 3431A1 (TM 9-1427-779-20).
Yes

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Check for short between 3431A1P5-29 and shield.
Is short present?
Yes
Repair or replace wire C48A24 (6) ORN.
Yes
No
Check for defective pin and wire connections at 9MT5P1-C, 9MT5P1-B, and 9MT5P1-A.
Are pin and wire connections good?
Yes
Yes
No
Repair pin or wire connections.

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE



Disconnect 9MT5P2 from 9MT5J2.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT5J2-C(+) and 9MT5J2-A(–).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT5J2-B to 3431A2P5-29.

Is continuity present?

Repair or replace wire C57A24 (6) ORN.

Check for approximately 9.5 VDC 9MT5J2-C(+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT5J2-A to 3431A2P5-30.

Is continuity present?

Repair or replace wire C57A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT5J2-C to 3431A2P5-28.

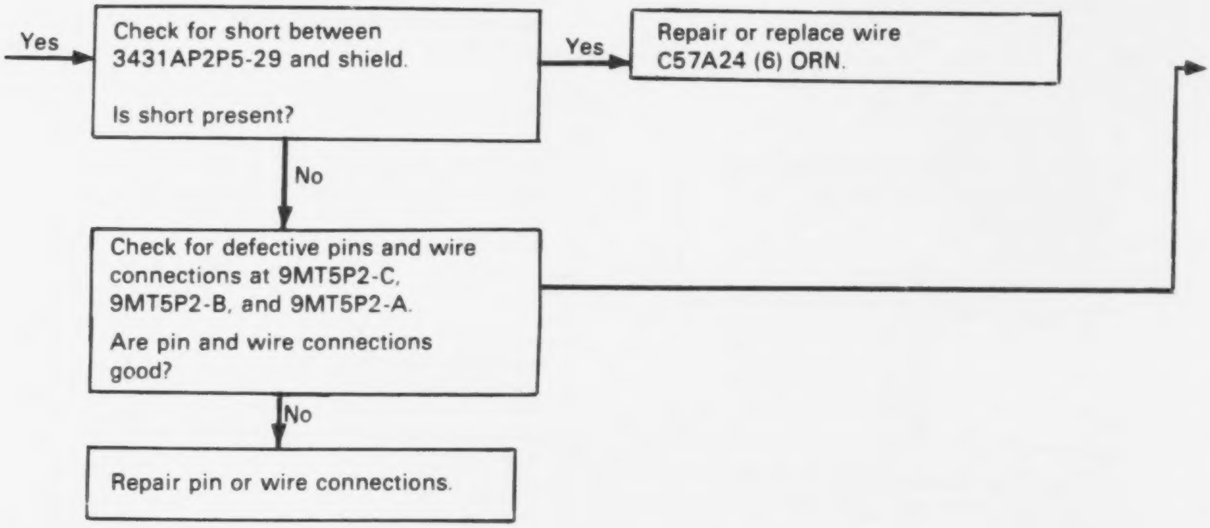
Is continuity present?

Replace left MCPU 3431A1 (TM 9-1427-779-20).

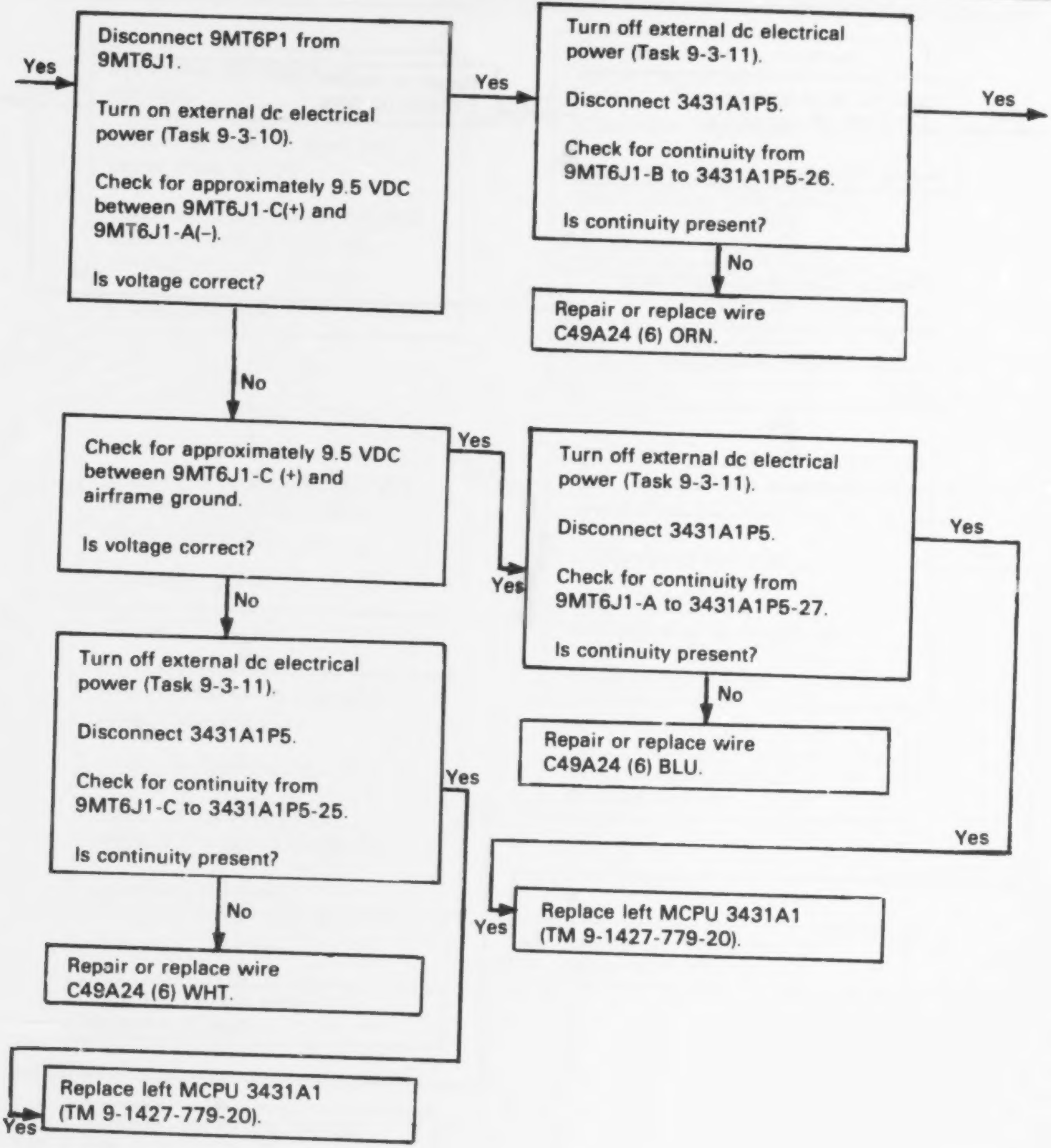
Repair or replace wire C57A24 (6) WHT.

Replace right MCPU 3431A2 (TM 9-1427-779-20).

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Check for short between 3431AP2P5-29 and shield.
Is short present?
Yes
Repair or replace wire C57A24 (6) ORN.
No
Check for defective pins and wire connections at 9MT5P2-C, 9MT5P2-B, and 9MT5P2-A.
Are pin and wire connections good?
No
Repair pin or wire connections.

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT6P1 from 9MT6J1.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT6J1-C(+) and 9MT6J1-A(–).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT6J1-B to 3431A1P5-26.

Is continuity present?

Repair or replace wire C49A24 (6) ORN.

Check for approximately 9.5 VDC between 9MT6J1-C (+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT6J1-A to 3431A1P5-27.

Is continuity present?

Repair or replace wire C49A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT6J1-C to 3431A1P5-25.

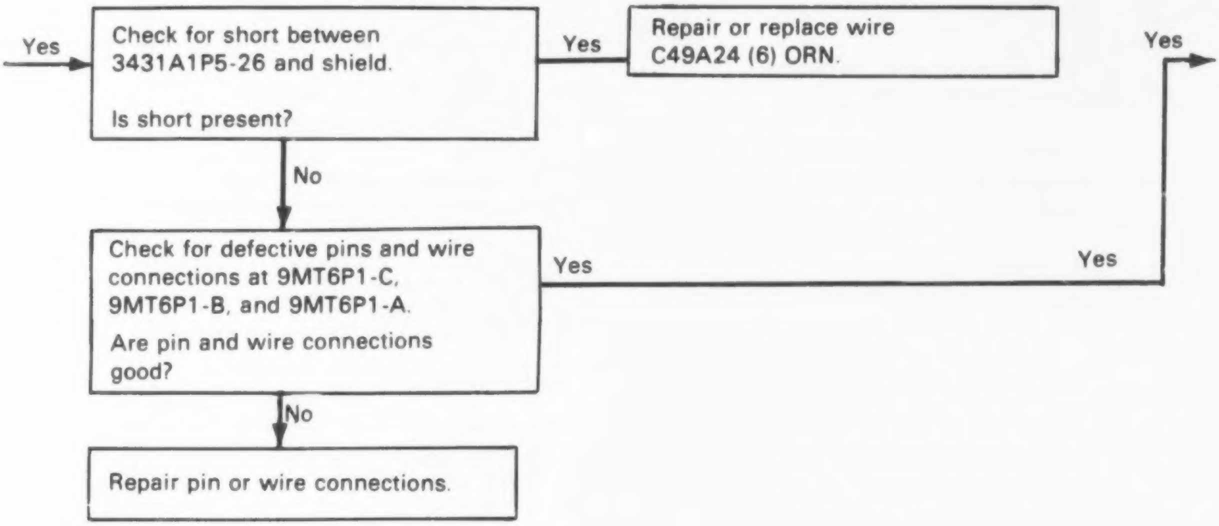
Is continuity present?

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Repair or replace wire C49A24 (6) WHT.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)



Check for short between 3431A1P5-26 and shield.

Is short present?

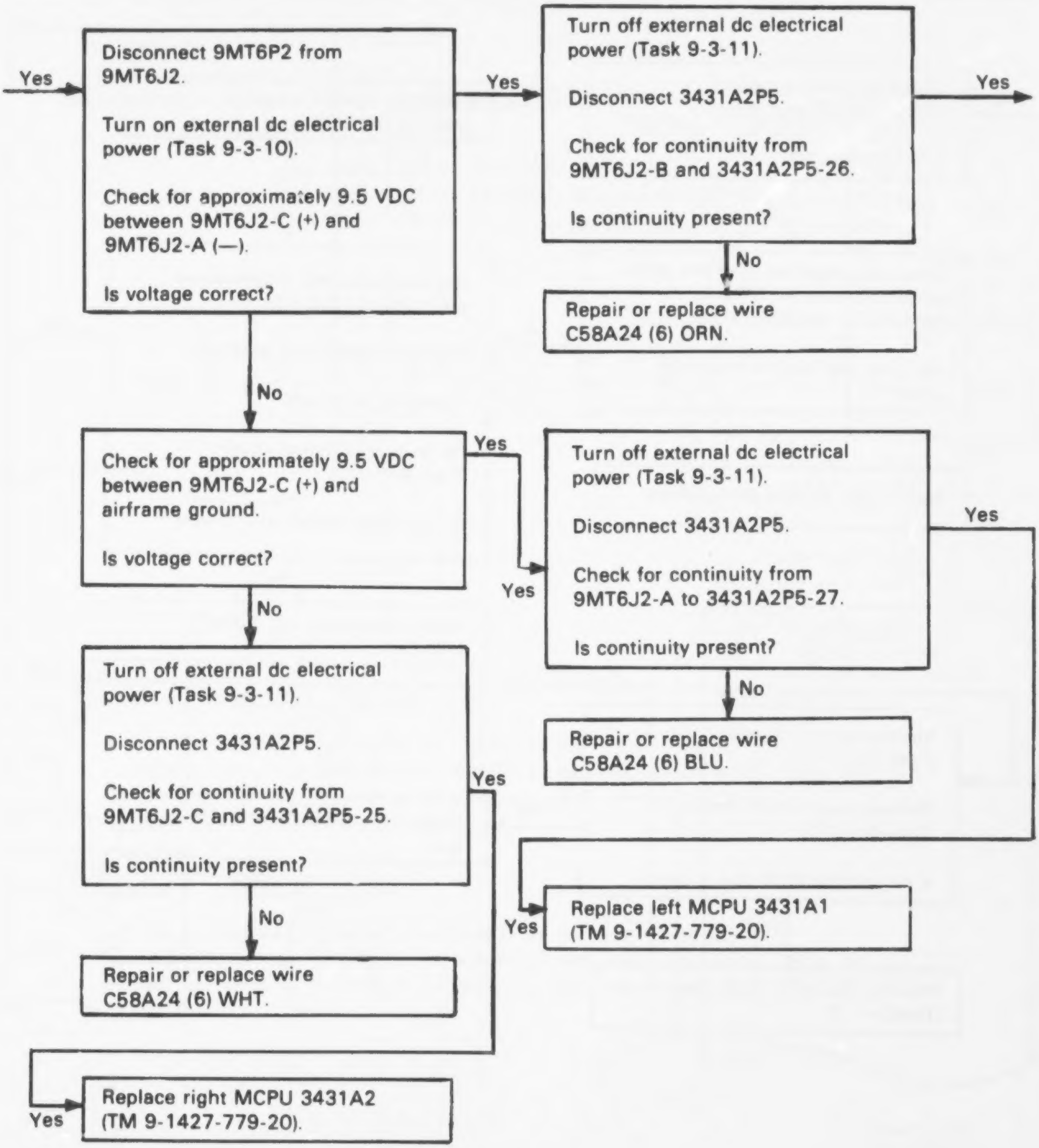
Repair or replace wire C49A24 (6) ORN.

Check for defective pins and wire connections at 9MT6P1-C, 9MT6P1-B, and 9MT6P1-A.

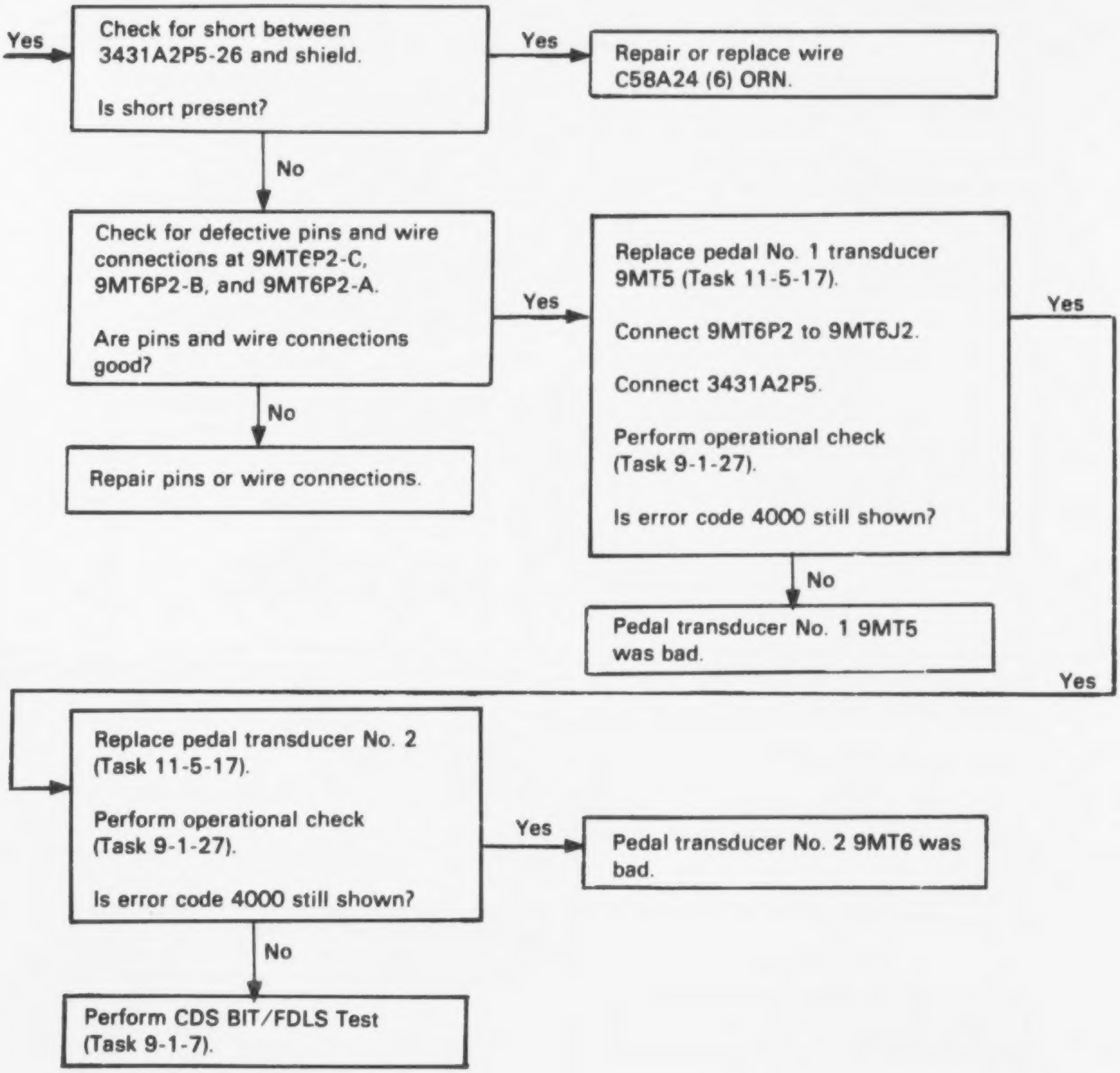
Are pin and wire connections good?

Repair pin or wire connections.

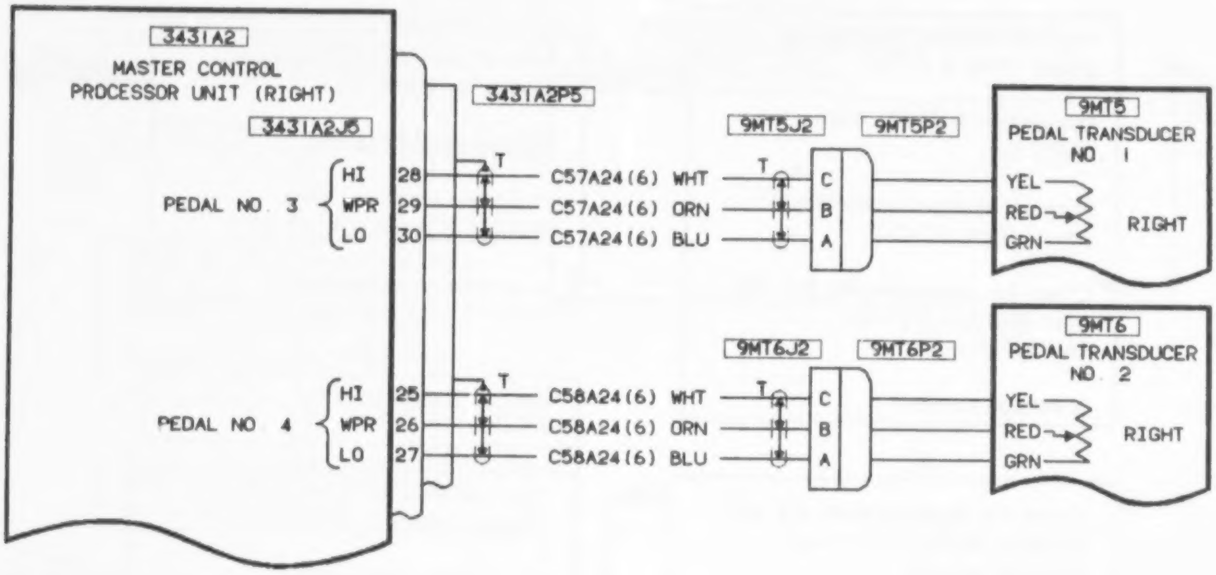
222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)

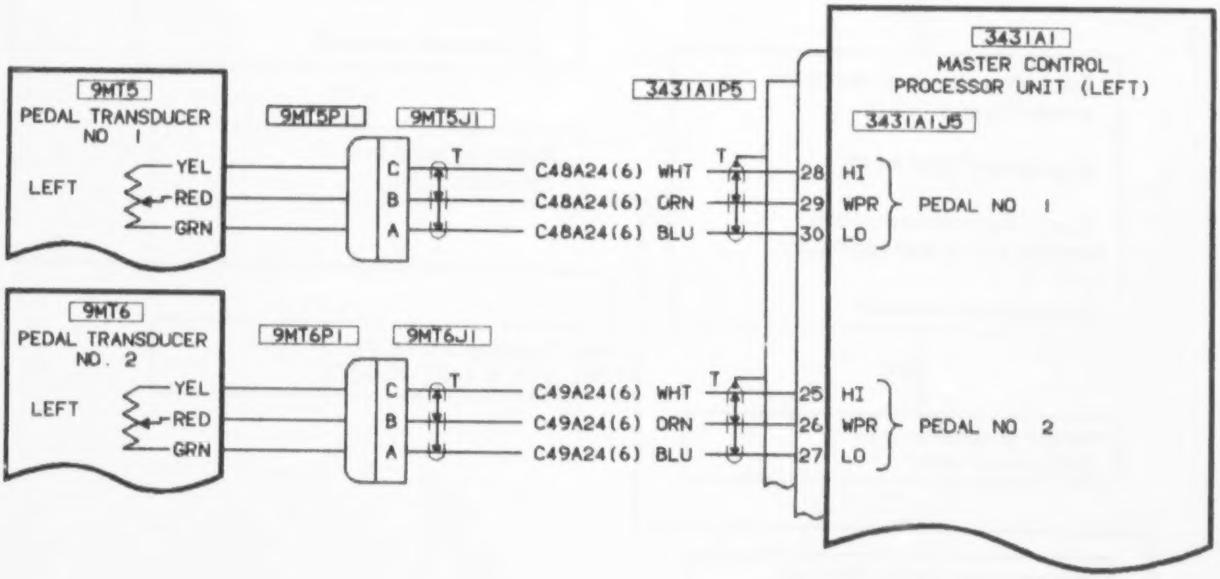

Yes
Disconnect 9MT6P2 from 9MT6J2. Turn on external dc electrical power (Task 9-3-10). Check for approximately 9.5 VDC between 9MT6J2-C (+) and 9MT6J2-A (—). Is voltage correct?
Yes
Turn off external dc electrical power (Task 9-3-11). Disconnect 3431A2P5. Check for continuity from 9MT6J2-B and 3431A2P5-26. Is continuity present?
Yes
No
Repair or replace wire C58A24 (6) ORN.
No
Check for approximately 9.5 VDC between 9MT6J2-C (+) and airframe ground. Is voltage correct?
Yes
Yes
Turn off external dc electrical power (Task 9-3-11). Disconnect 3431A2P5. Check for continuity from 9MT6J2-A to 3431A2P5-27. Is continuity present?
Yes
No
Repair or replace wire C58A24 (6) BLU.
No
Turn off external dc electrical power (Task 9-3-11). Disconnect 3431A2P5. Check for continuity from 9MT6J2-C and 3431A2P5-25. Is continuity present?
Yes
Yes
Replace left MCPU 3431A1 (TM 9-1427-779-20).
No
Repair or replace wire C58A24 (6) WHT.
Yes
Replace right MCPU 3431A2 (TM 9-1427-779-20).

222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Check for short between 3431A2P5-26 and shield.
Is short present?
Yes
Repair or replace wire C58A24 (6) ORN.
No
Check for defective pins and wire connections at 9MT6P2-C, 9MT6P2-B, and 9MT6P2-A.
Are pins and wire connections good?
Yes
Replace pedal No. 1 transducer 9MT5 (Task 11-5-17).
Connect 9MT6P2 to 9MT6J2.
Connect 3431A2P5.
Perform operational check (Task 9-1-27).
Is error code 4000 still shown?
Yes
No
Repair pins or wire connections.
No
Pedal transducer No. 1 9MT5 was bad.
Yes
Replace pedal transducer No. 2 (Task 11-5-17).
Perform operational check (Task 9-1-27).
Is error code 4000 still shown?
Yes
Pedal transducer No. 2 9MT6 was bad.
No
Perform CDS BIT/FDLS Test (Task 9-1-7).

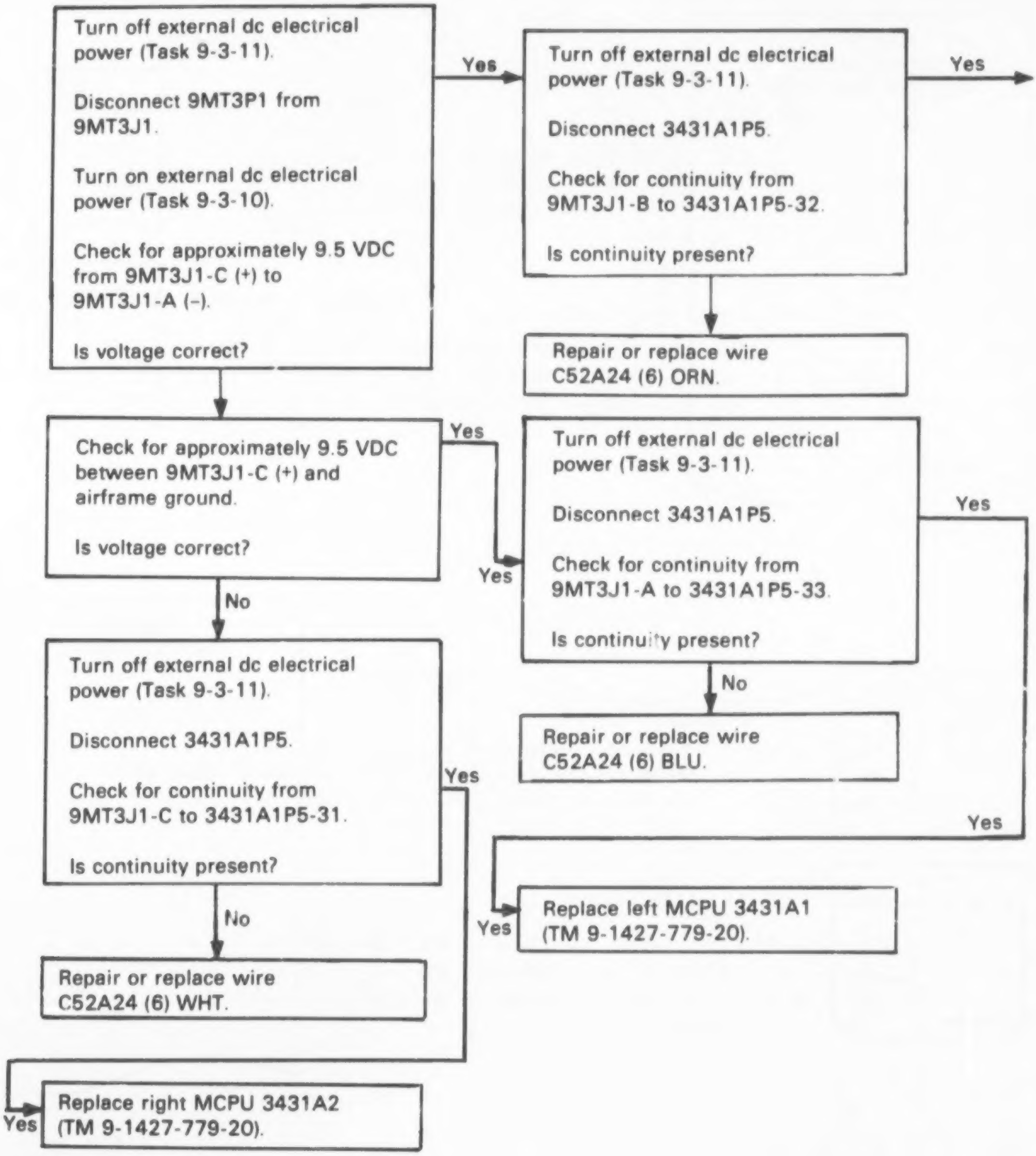
222. ERROR CODE 4000 WORD 1 PEDAL CONTROL MOTION TRANSDUCER FAILURE (CONT)


3431A2
MASTER CONTROL
PROCESSOR UNIT (RIGHT)
3431A2J5
3431A2P5
PEDAL NO. 3
HI 28
WPR 29
LO 30
T
C57A24(6) WHT
C57A24(6) ORN
C57A24(6) BLU
9MT5J2
9MT5P2
C
B
A
9MT5
PEDAL TRANSDUCER
NO 1
YEL
RED
GRN
RIGHT
PEDAL NO 4
HI 25
WPR 26
LO 27
C58A24(6) WHT
C58A24(6) ORN
C58A24(6) BLU
9MT6J2
9MT6P2
9MT6
PEDAL TRANSDUCER
NO. 2
RIGHT


9MT5
PEDAL TRANSDUCER
NO 1
LEFT
YEL
RED
GRN
9MT5P1
9MT5J1
C
B
A
T
C48A24(6) WHT
C48A24(6) ORN
C48A24(6) BLU
3431A1P5
3431A1
MASTER CONTROL
PROCESSOR UNIT (LEFT)
3431A1J5
28 HI
29 WPR
30 LO
PEDAL NO 1
9MT6
PEDAL TRANSDUCER
NO. 2
LEFT
9MT6P1
9MT6J1
C49A24(6) WHT
C49A24(6) ORN
C49A24(6) BLU
25 HI
26 WPR
27 LO
PEDAL NO 2

406475-248
406-475-60

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9MT3P1 from 9MT3J1.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC from 9MT3J1-C (+) to 9MT3J1-A (–).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT3J1-B to 3431A1P5-32.

Is continuity present?

Repair or replace wire C52A24 (6) ORN.

Check for approximately 9.5 VDC between 9MT3J1-C (+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT3J1-A to 3431A1P5-33.

Is continuity present?

Repair or replace wire C52A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT3J1-C to 3431A1P5-31.

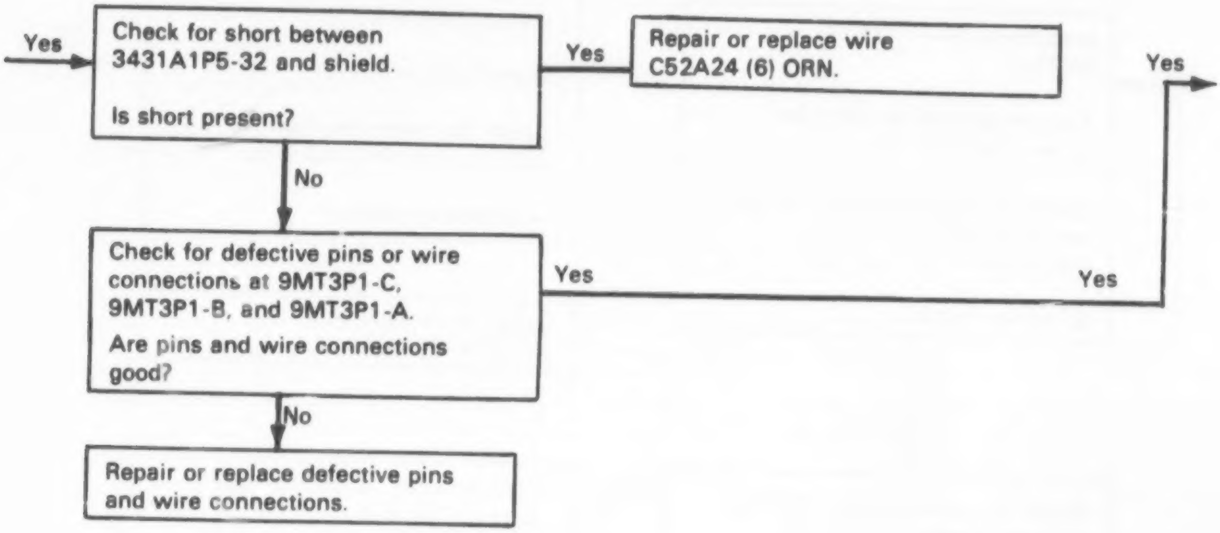
Is continuity present?

Repair or replace wire C52A24 (6) WHT.

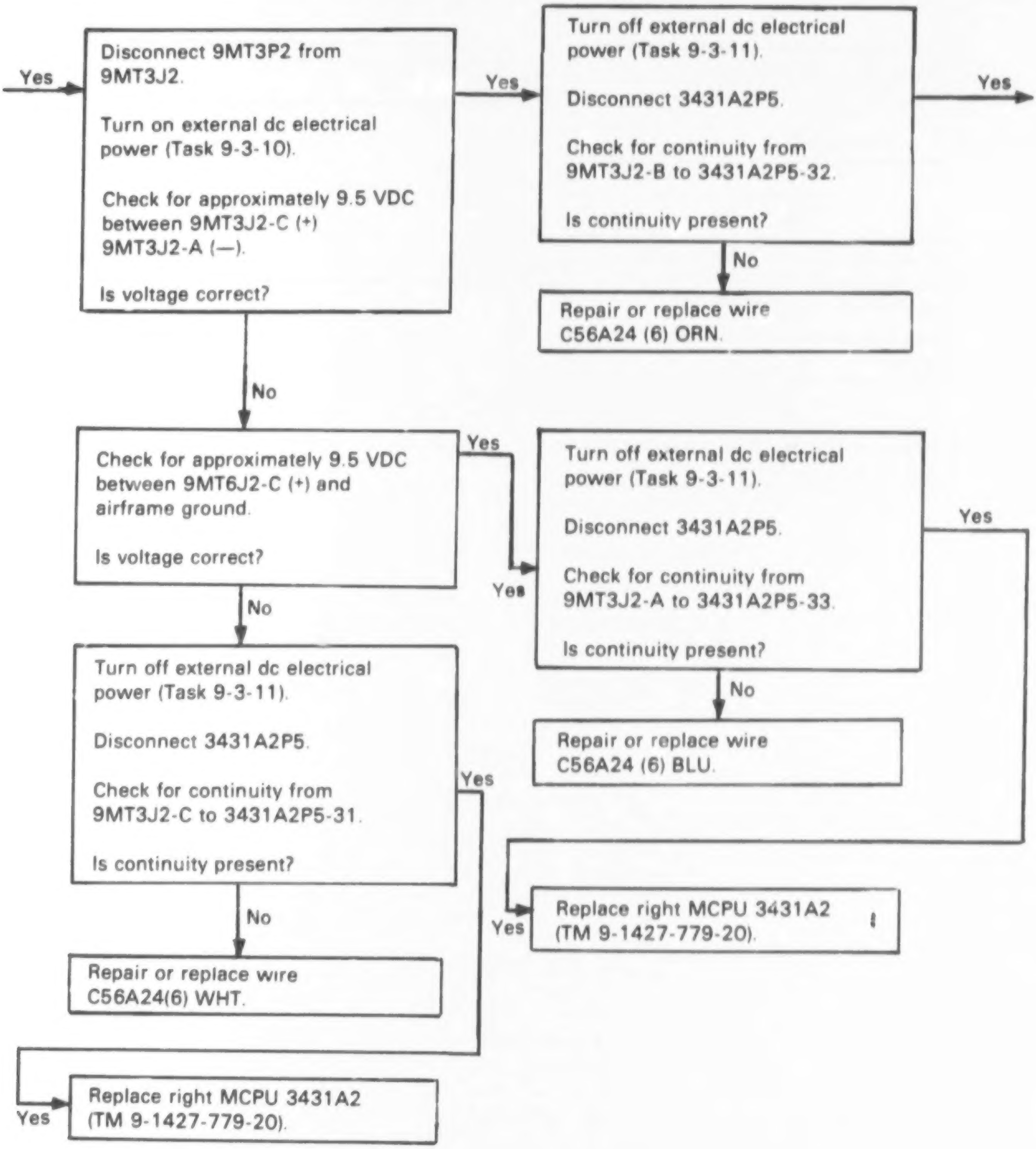
Replace left MCPU 3431A1 (TM 9-1427-779-20).

Replace right MCPU 3431A2 (TM 9-1427-779-20).

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Check for short between 3431A1P5-32 and shield.
Is short present?
Yes
Repair or replace wire C52A24 (6) ORN.
Yes
No
Check for defective pins or wire connections at 9MT3P1-C, 9MT3P1-B, and 9MT3P1-A.
Are pins and wire connections good?
Yes
Yes
No
Repair or replace defective pins and wire connections.

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT3P2 from 9MT3J2.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT3J2-C (+) 9MT3J2-A (—).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT3J2-B to 3431A2P5-32.

Is continuity present?

Repair or replace wire C56A24 (6) ORN.

Check for approximately 9.5 VDC between 9MT6J2-C (+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT3J2-A to 3431A2P5-33.

Is continuity present?

Repair or replace wire C56A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT3J2-C to 3431A2P5-31.

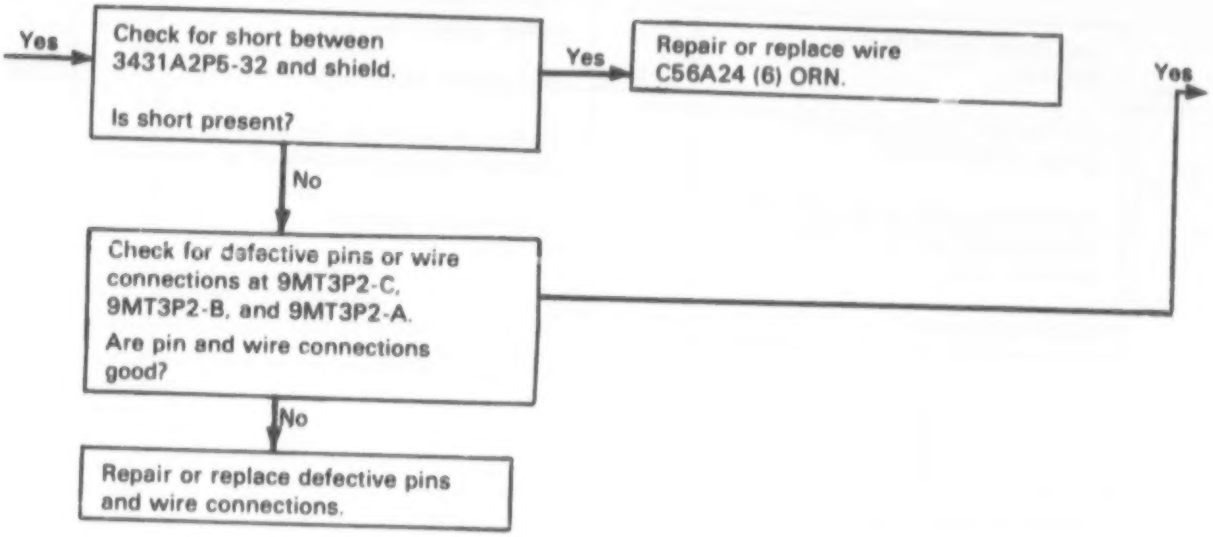
Is continuity present?

Replace right MCPU 3431A2 (TM 9-1427-779-20).

Repair or replace wire C56A24(6) WHT.

Replace right MCPU 3431A2 (TM 9-1427-779-20).

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



Check for short between 3431A2P5-32 and shield.

Is short present?

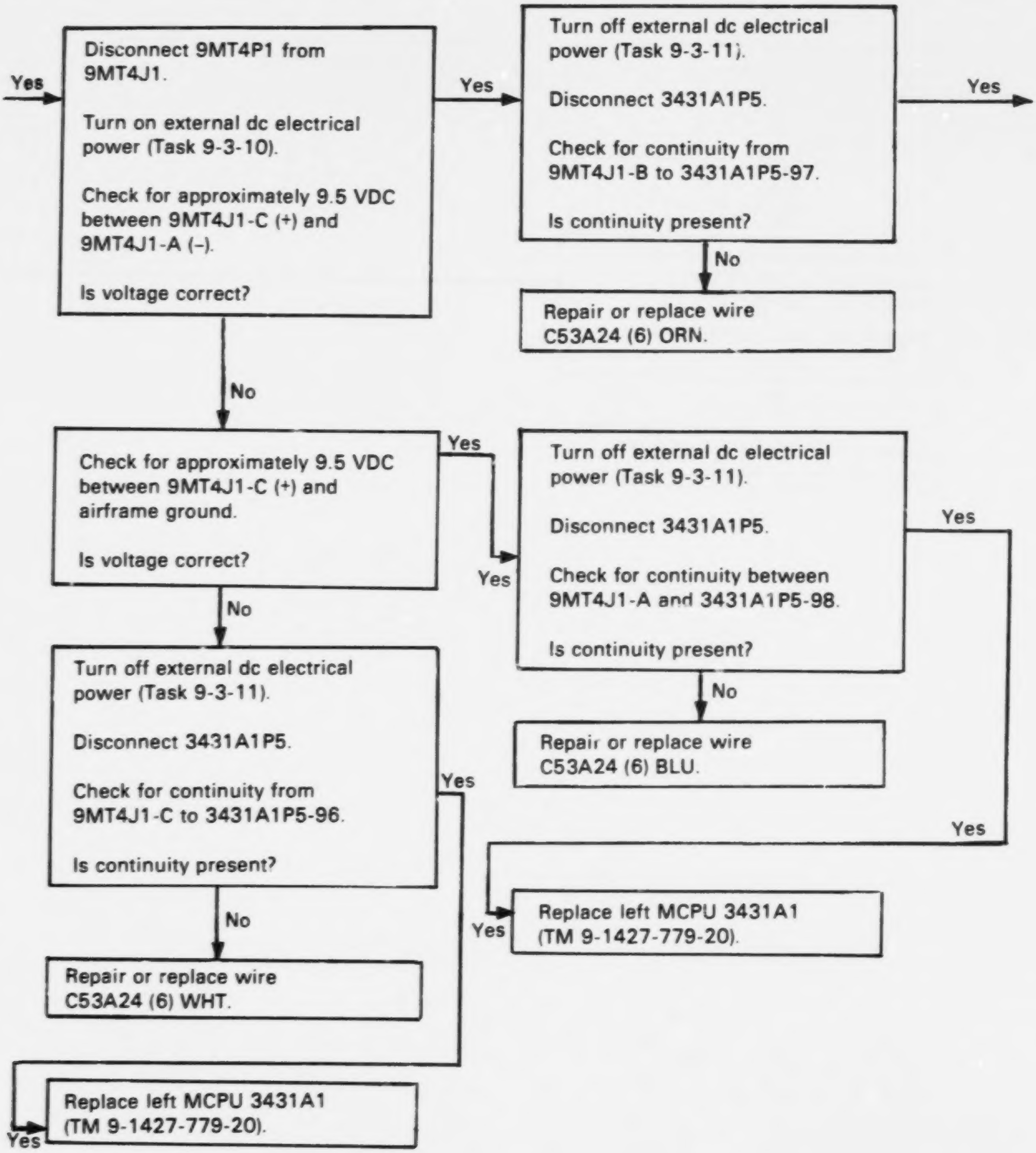
Repair or replace wire C56A24 (6) ORN.

Check for defective pins or wire connections at 9MT3P2-C, 9MT3P2-B, and 9MT3P2-A.

Are pin and wire connections good?

Repair or replace defective pins and wire connections.

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT4P1 from 9MT4J1.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT4J1-C (+) and 9MT4J1-A (–).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT4J1-B to 3431A1P5-97.

Is continuity present?

Repair or replace wire C53A24 (6) ORN.

Check for approximately 9.5 VDC between 9MT4J1-C (+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity between 9MT4J1-A and 3431A1P5-98.

Is continuity present?

Repair or replace wire C53A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Check for continuity from 9MT4J1-C to 3431A1P5-96.

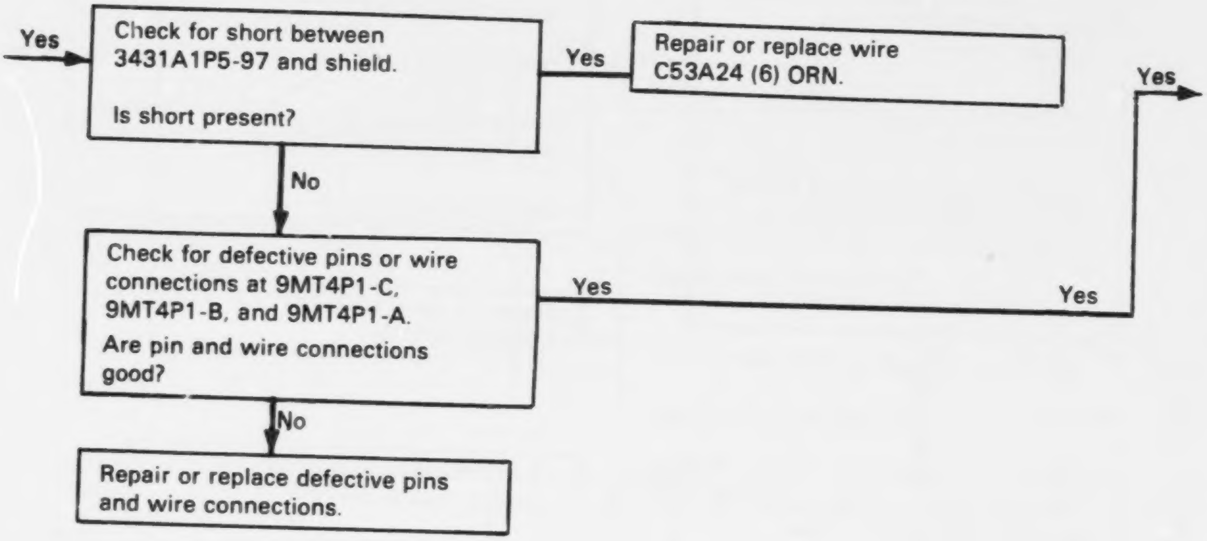
Is continuity present?

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Repair or replace wire C53A24 (6) WHT.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



Check for short between 3431A1P5-97 and shield.

Is short present?

Repair or replace wire C53A24 (6) ORN.

Check for defective pins or wire connections at 9MT4P1-C, 9MT4P1-B, and 9MT4P1-A.

Are pin and wire connections good?

Repair or replace defective pins and wire connections.

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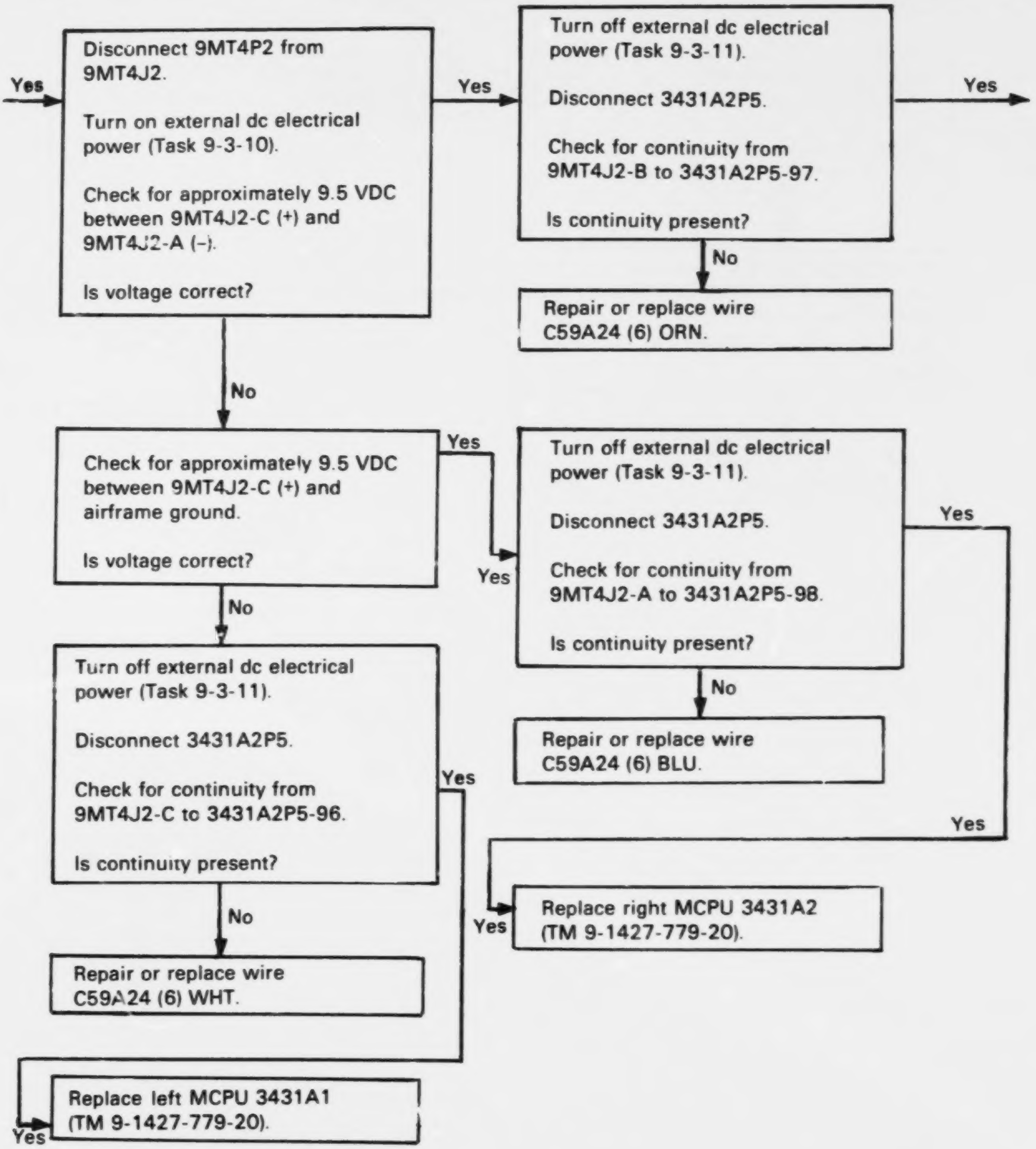
223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



Disconnect 9MT4P2 from 9MT4J2.

Turn on external dc electrical power (Task 9-3-10).

Check for approximately 9.5 VDC between 9MT4J2-C (+) and 9MT4J2-A (–).

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT4J2-B to 3431A2P5-97.

Is continuity present?

Repair or replace wire C59A24 (6) ORN.

Check for approximately 9.5 VDC between 9MT4J2-C (+) and airframe ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT4J2-A to 3431A2P5-98.

Is continuity present?

Repair or replace wire C59A24 (6) BLU.

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

Check for continuity from 9MT4J2-C to 3431A2P5-96.

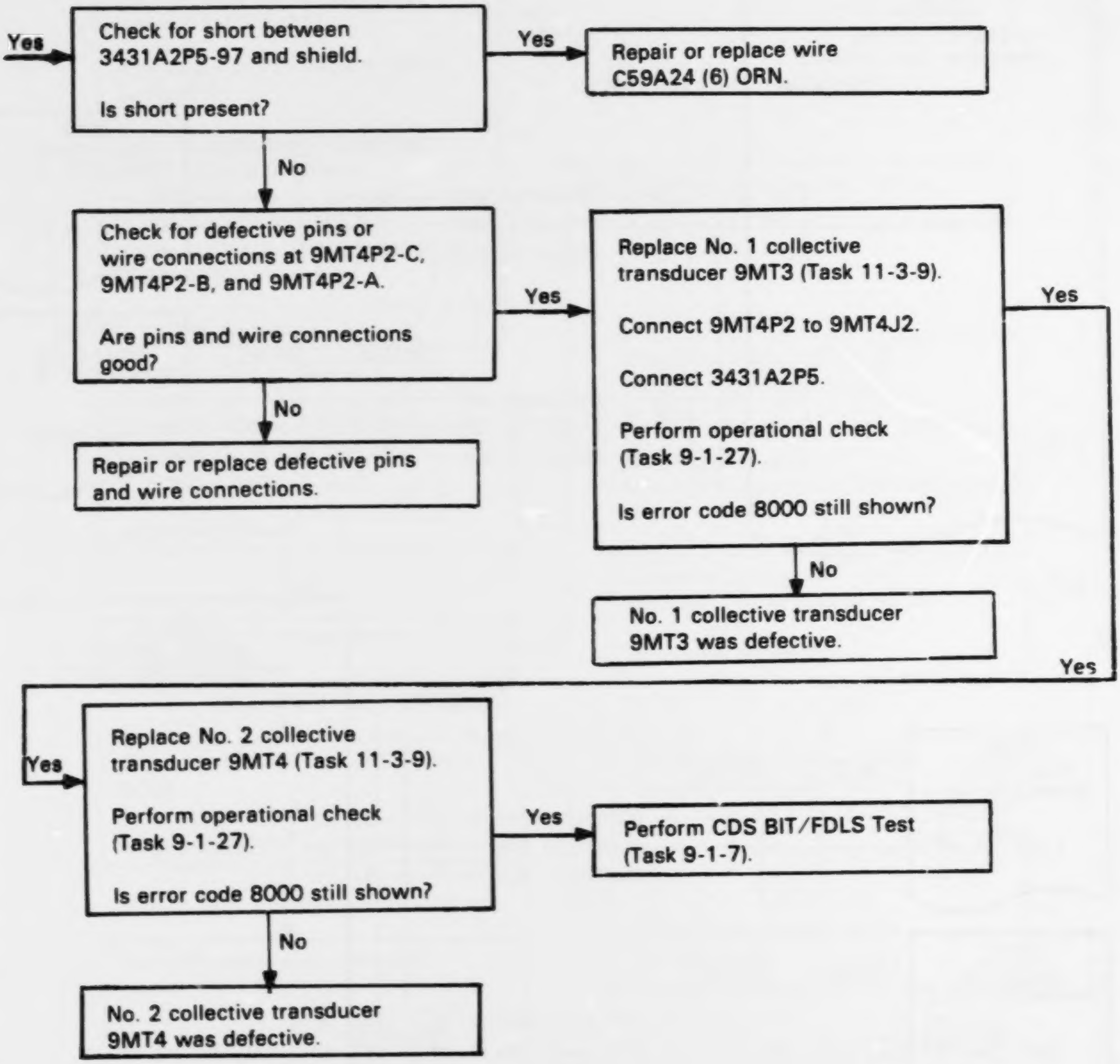
Is continuity present?

Replace right MCPU 3431A2 (TM 9-1427-779-20).

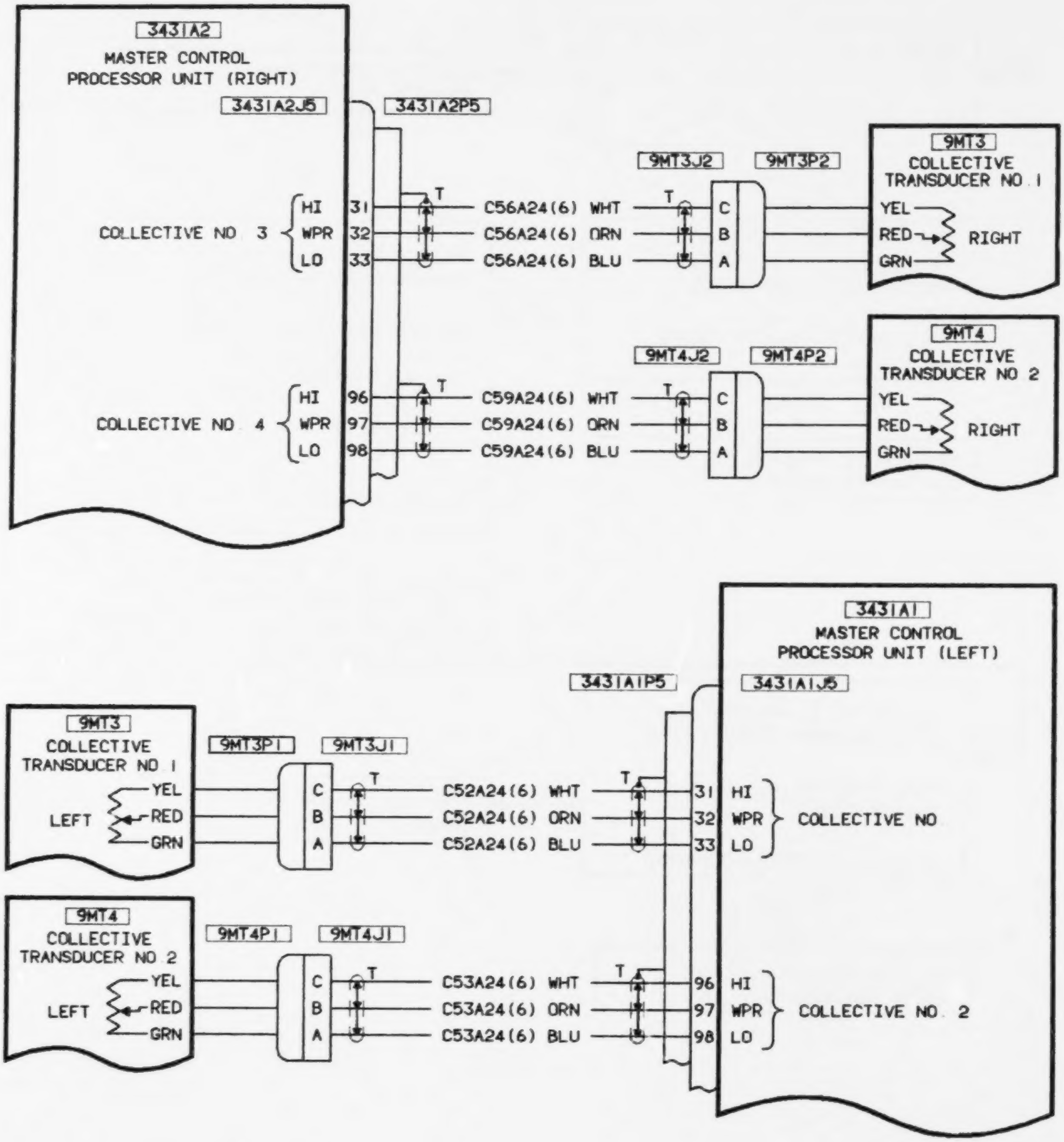
Repair or replace wire C59A24 (6) WHT.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)


Yes
Check for short between 3431A2P5-97 and shield.
Is short present?
Yes
Repair or replace wire C59A24 (6) ORN.
No
Check for defective pins or wire connections at 9MT4P2-C, 9MT4P2-B, and 9MT4P2-A.
Are pins and wire connections good?
Yes
Replace No. 1 collective transducer 9MT3 (Task 11-3-9).
Connect 9MT4P2 to 9MT4J2.
Connect 3431A2P5.
Perform operational check (Task 9-1-27).
Is error code 8000 still shown?
Yes
No
Repair or replace defective pins and wire connections.
No
No. 1 collective transducer 9MT3 was defective.
Yes
Yes
Replace No. 2 collective transducer 9MT4 (Task 11-3-9).
Perform operational check (Task 9-1-27).
Is error code 8000 still shown?
Yes
Perform CDS BIT/FDLS Test (Task 9-1-7).
No
No. 2 collective transducer 9MT4 was defective.

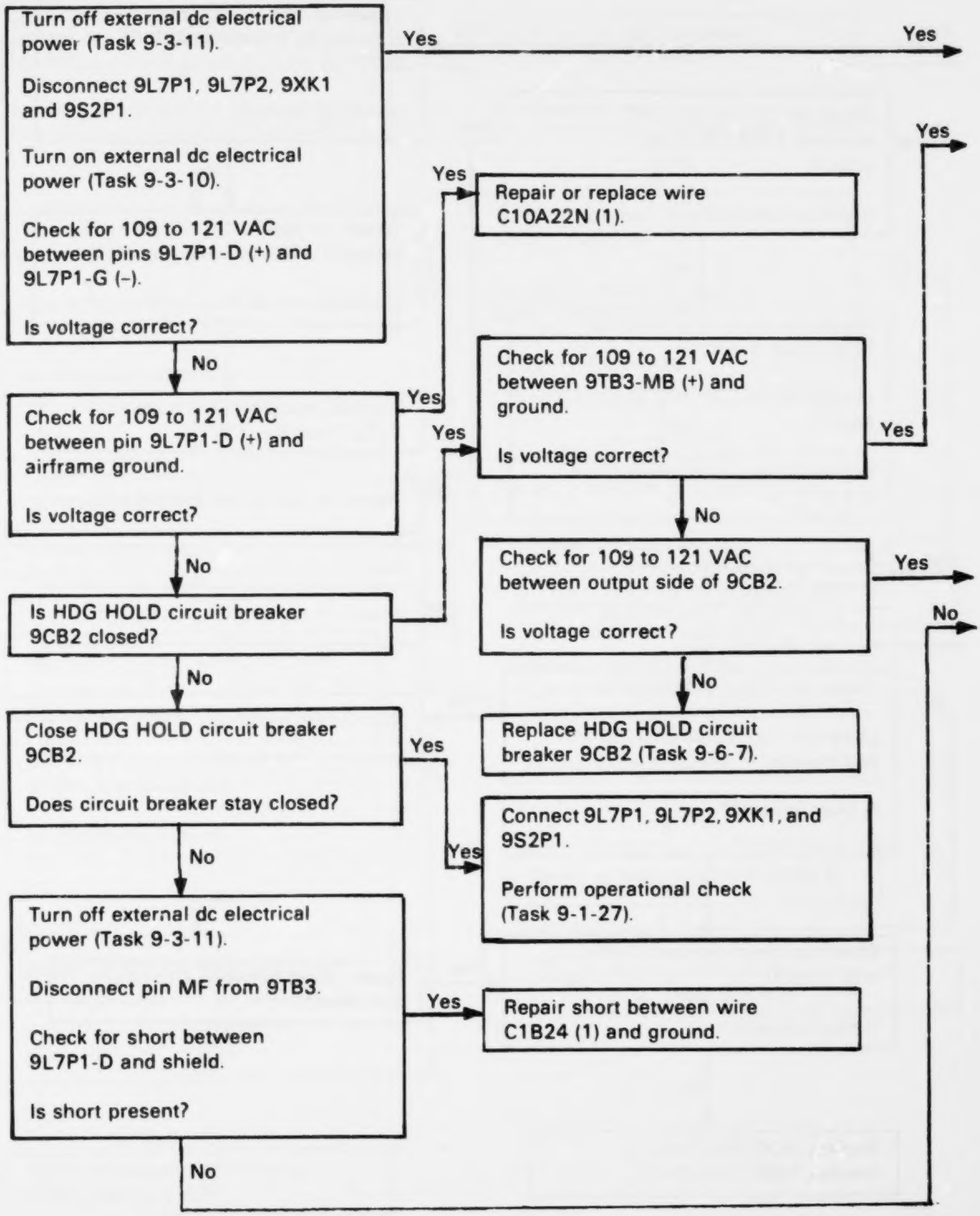
223. ERROR CODE 8000 WORD 1 COLLECTIVE CONTROL MOTION TRANSDUCER FAILURE (CONT)



3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2J5
3431A2P5
COLLECTIVE NO 3
HI 31
WPR 32
LO 33
T
C56A24(6) WHT
C56A24(6) ORN
C56A24(6) BLU
9MT3J2
9MT3P2
C
B
A
9MT3
COLLECTIVE TRANSDUCER NO 1
YEL
RED
GRN
RIGHT
COLLECTIVE NO 4
HI 96
WPR 97
LO 98
C59A24(6) WHT
C59A24(6) ORN
C59A24(6) BLU
9MT4J2
9MT4P2
9MT4
COLLECTIVE TRANSDUCER NO 2
YEL
RED
GRN
RIGHT
3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1P5
3431A1J5
9MT3
COLLECTIVE TRANSDUCER NO 1
LEFT
YEL
RED
GRN
9MT3P1
9MT3J1
C
B
A
T
C52A24(6) WHT
C52A24(6) ORN
C52A24(6) BLU
31 HI
32 WPR
33 LO
COLLECTIVE NO
9MT4
COLLECTIVE TRANSDUCER NO 2
LEFT
YEL
RED
GRN
9MT4P1
9MT4J1
C53A24(6) WHT
C53A24(6) ORN
C53A24(6) BLU
96 HI
97 WPR
98 LO
COLLECTIVE NO 2

406475-247
406-475-606A

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9L7P1, 9L7P2, 9XK1 and 9S2P1.

Turn on external dc electrical power (Task 9-3-10).

Check for 109 to 121 VAC between pins 9L7P1-D (+) and 9L7P1-G (–).

Is voltage correct?

Check for 109 to 121 VAC between pin 9L7P1-D (+) and airframe ground.

Is voltage correct?

Is HDG HOLD circuit breaker 9CB2 closed?

Close HDG HOLD circuit breaker 9CB2.

Does circuit breaker stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect pin MF from 9TB3.

Check for short between 9L7P1-D and shield.

Is short present?

Repair or replace wire C10A22N (1).

Check for 109 to 121 VAC between 9TB3-MB (+) and ground.

Is voltage correct?

Check for 109 to 121 VAC between output side of 9CB2.

Is voltage correct?

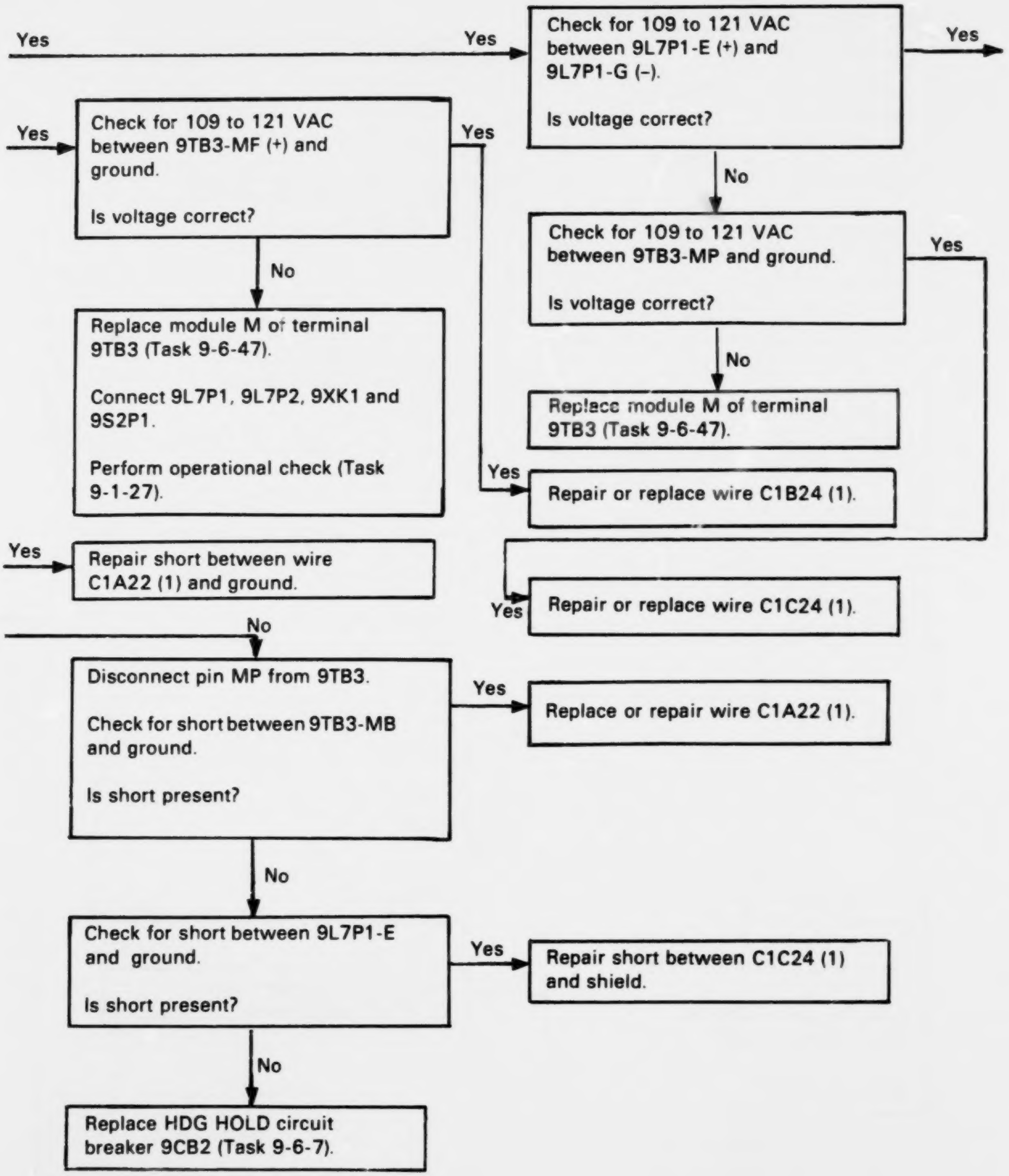
Replace HDG HOLD circuit breaker 9CB2 (Task 9-6-7).

Connect 9L7P1, 9L7P2, 9XK1, and 9S2P1.

Perform operational check (Task 9-1-27).

Repair short between wire C1B24 (1) and ground.

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Check for 109 to 121 VAC between 9L7P1-E (+) and 9L7P1-G (–).

Is voltage correct?

Check for 109 to 121 VAC between 9TB3-MF (+) and ground.

Is voltage correct?

Check for 109 to 121 VAC between 9TB3-MP and ground.

Is voltage correct?

Replace module M of terminal 9TB3 (Task 9-6-47).

Connect 9L7P1, 9L7P2, 9XK1 and 9S2P1.

Perform operational check (Task 9-1-27).

Replace module M of terminal 9TB3 (Task 9-6-47).

Repair or replace wire C1B24 (1).

Repair short between wire C1A22 (1) and ground.

Repair or replace wire C1C24 (1).

Disconnect pin MP from 9TB3.

Check for short between 9TB3-MB and ground.

Is short present?

Replace or repair wire C1A22 (1).

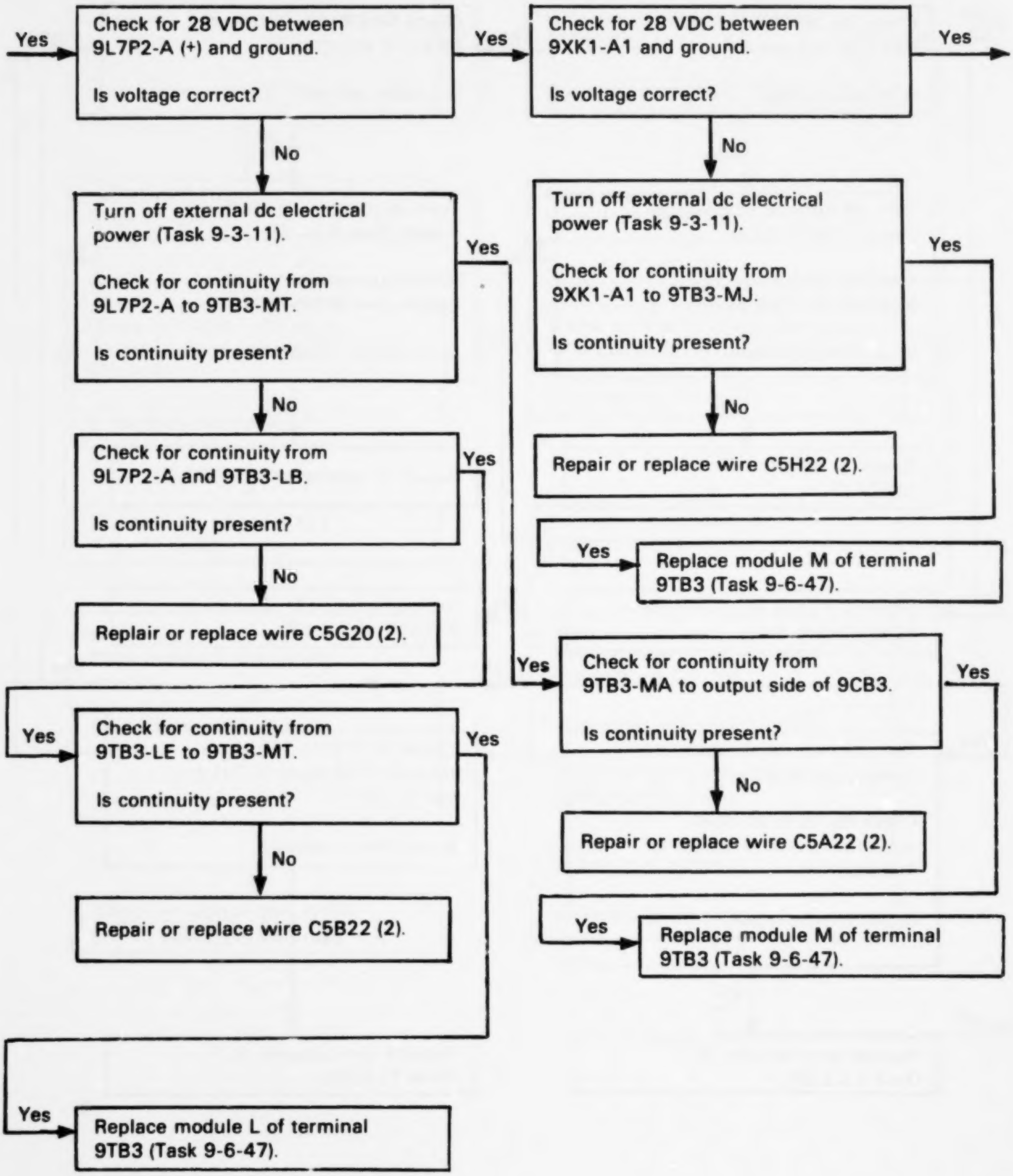
Check for short between 9L7P1-E and ground.

Is short present?

Repair short between C1C24 (1) and shield.

Replace HDG HOLD circuit breaker 9CB2 (Task 9-6-7).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Check for 28 VDC between 9L7P2-A (+) and ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 9L7P2-A to 9TB3-MT.

Is continuity present?

Check for continuity from 9L7P2-A and 9TB3-LB.

Is continuity present?

Replair or replace wire C5G20 (2).

Check for continuity from 9TB3-LE to 9TB3-MT.

Is continuity present?

Repair or replace wire C5B22 (2).

Replace module L of terminal 9TB3 (Task 9-6-47).

Check for 28 VDC between 9XK1-A1 and ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 9XK1-A1 to 9TB3-MJ.

Is continuity present?

Repair or replace wire C5H22 (2).

Replace module M of terminal 9TB3 (Task 9-6-47).

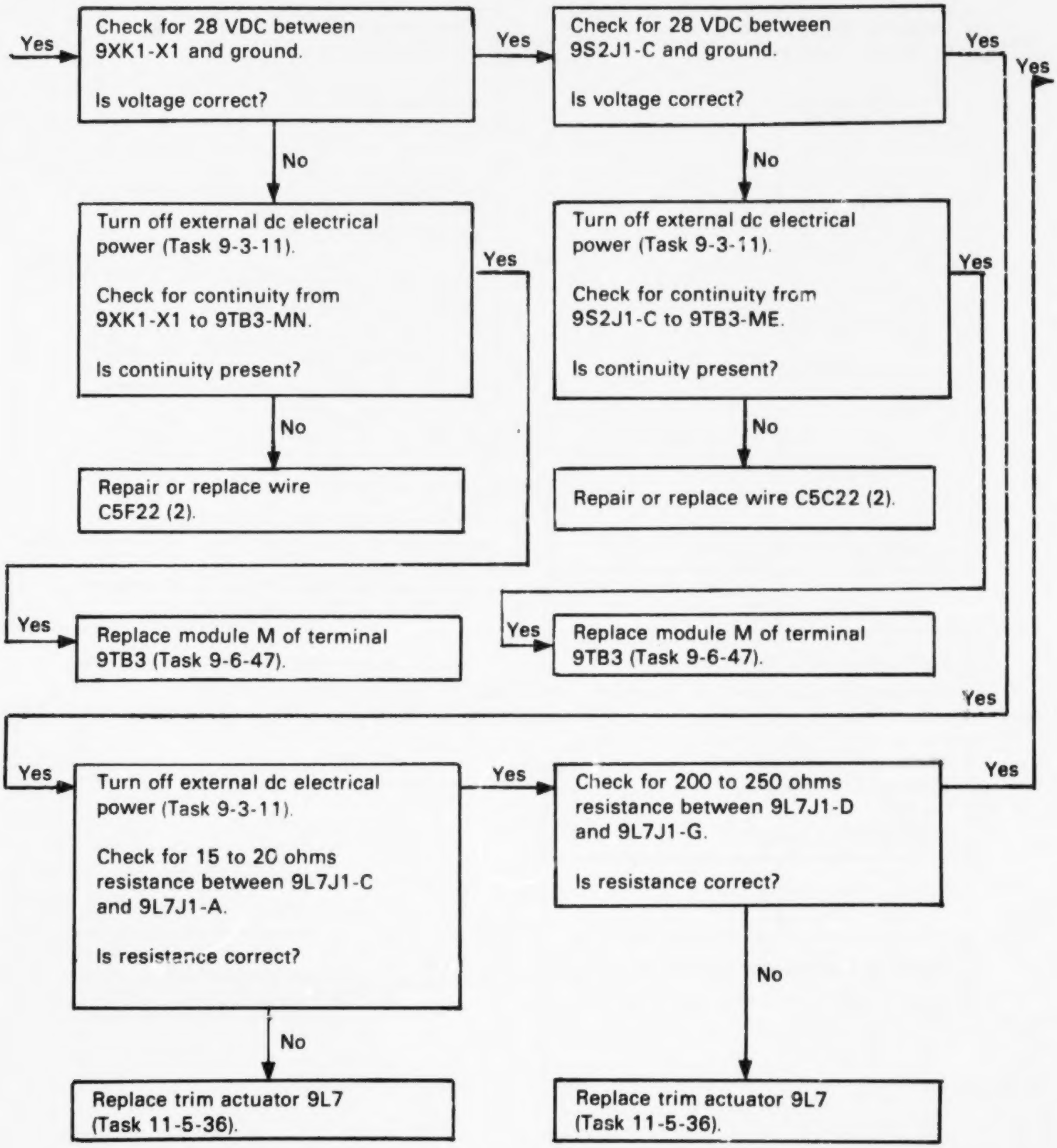
Check for continuity from 9TB3-MA to output side of 9CB3.

Is continuity present?

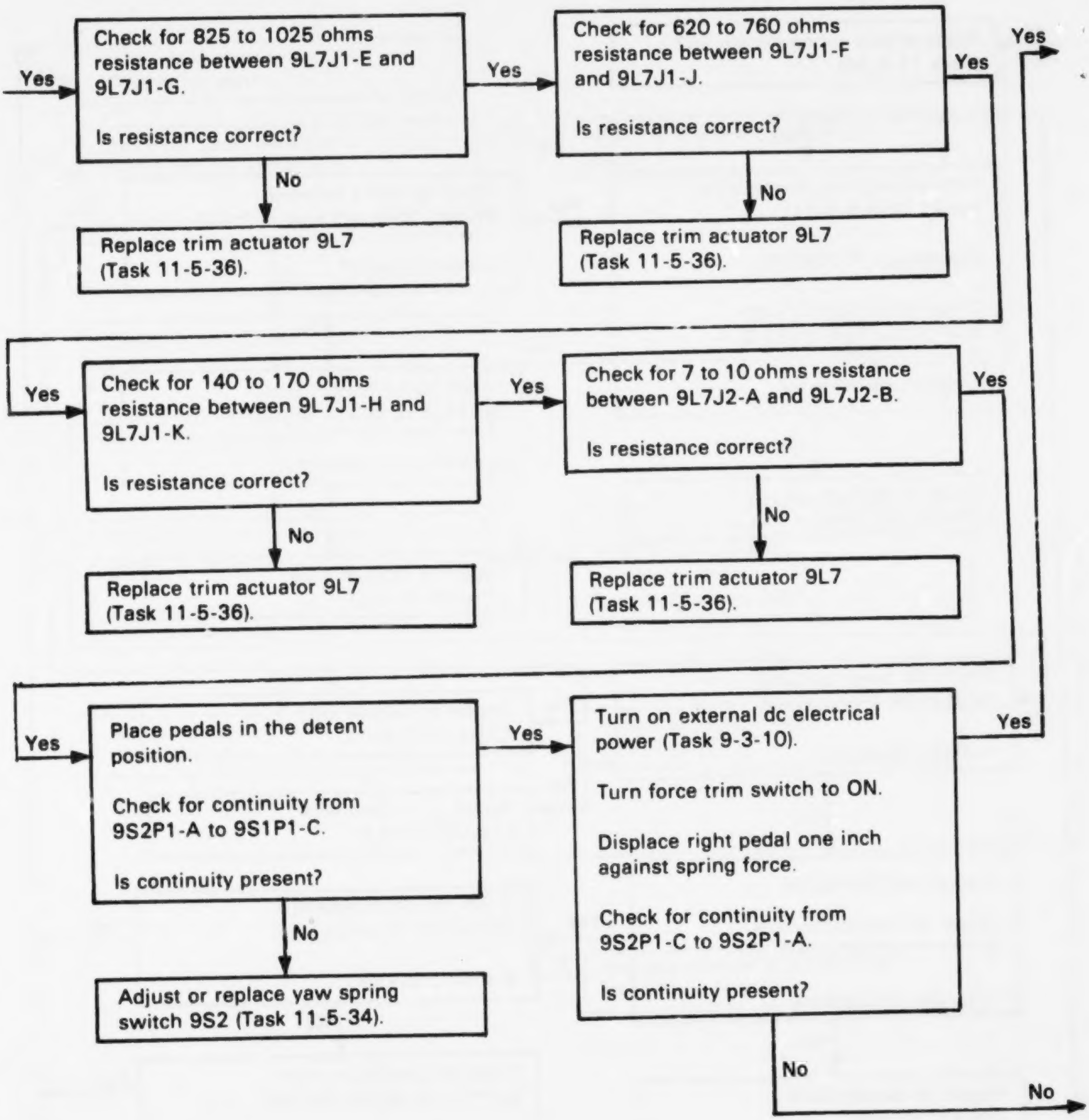
Repair or replace wire C5A22 (2).

Replace module M of terminal 9TB3 (Task 9-6-47).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


Yes
Check for 28 VDC between 9XK1-X1 and ground.
Is voltage correct?
Yes
Check for 28 VDC between 9S2J1-C and ground.
Is voltage correct?
Yes
Yes
No
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 9XK1-X1 to 9TB3-MN.
Is continuity present?
Yes
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 9S2J1-C to 9TB3-ME.
Is continuity present?
Yes
No
No
Repair or replace wire C5F22 (2).
Repair or replace wire C5C22 (2).
Yes
Replace module M of terminal 9TB3 (Task 9-6-47).
Yes
Replace module M of terminal 9TB3 (Task 9-6-47).
Yes
Yes
Turn off external dc electrical power (Task 9-3-11).
Check for 15 to 20 ohms resistance between 9L7J1-C and 9L7J1-A.
Is resistance correct?
Yes
Check for 200 to 250 ohms resistance between 9L7J1-D and 9L7J1-G.
Is resistance correct?
Yes
No
No
Replace trim actuator 9L7 (Task 11-5-36).
Replace trim actuator 9L7 (Task 11-5-36).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Check for 825 to 1025 ohms resistance between 9L7J1-E and 9L7J1-G.

Is resistance correct?

Replace trim actuator 9L7 (Task 11-5-36).

Check for 620 to 760 ohms resistance between 9L7J1-F and 9L7J1-J.

Is resistance correct?

Replace trim actuator 9L7 (Task 11-5-36).

Check for 140 to 170 ohms resistance between 9L7J1-H and 9L7J1-K.

Is resistance correct?

Replace trim actuator 9L7 (Task 11-5-36).

Check for 7 to 10 ohms resistance between 9L7J2-A and 9L7J2-B.

Is resistance correct?

Replace trim actuator 9L7 (Task 11-5-36).

Place pedals in the detent position.

Check for continuity from 9S2P1-A to 9S1P1-C.

Is continuity present?

Adjust or replace yaw spring switch 9S2 (Task 11-5-34).

Turn on external dc electrical power (Task 9-3-10).

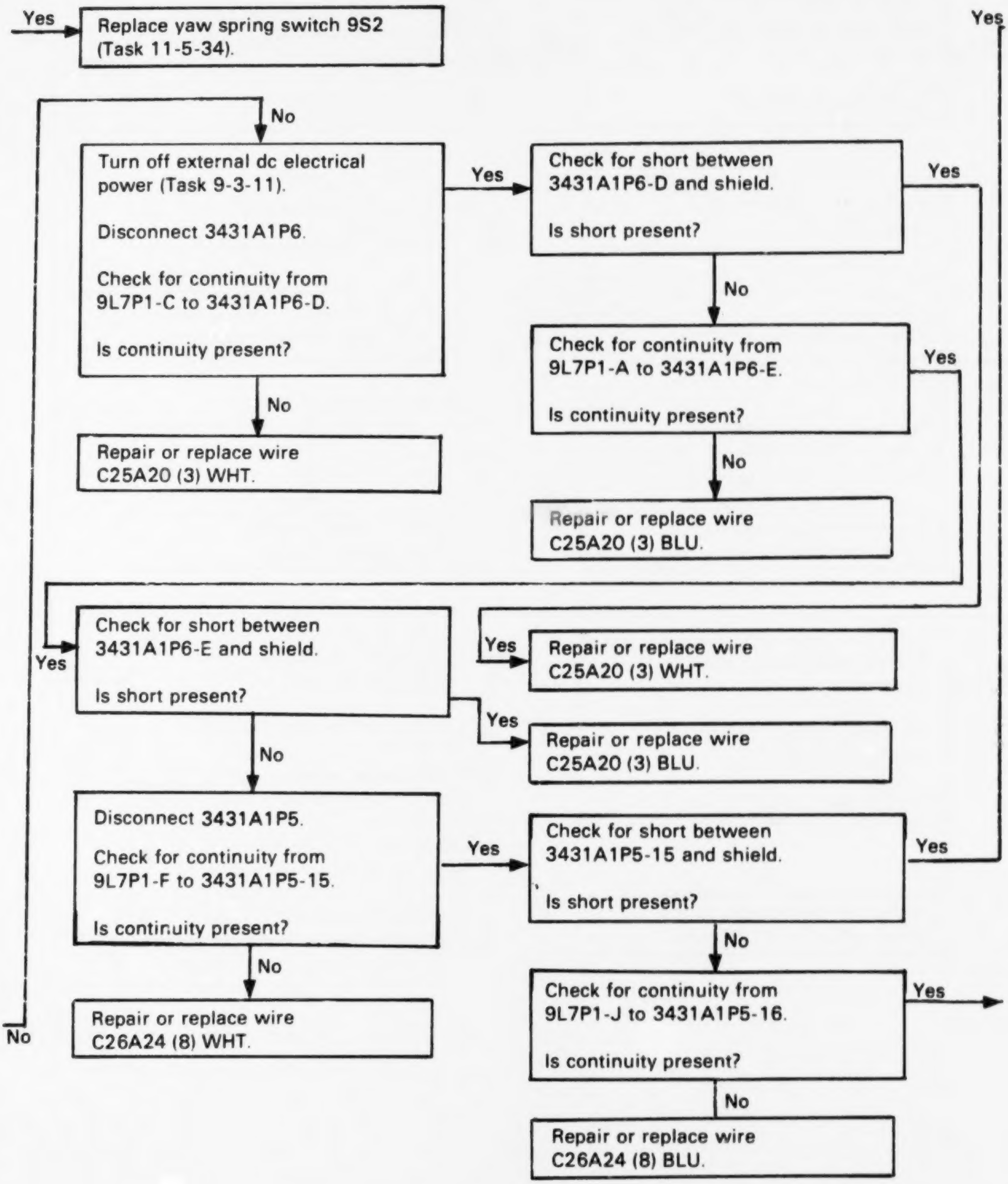
Turn force trim switch to ON.

Displace right pedal one inch against spring force.

Check for continuity from 9S2P1-C to 9S2P1-A.

Is continuity present?

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Replace yaw spring switch 9S2 (Task 11-5-34).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P6.

Check for continuity from 9L7P1-C to 3431A1P6-D.

Is continuity present?

Repair or replace wire C25A20 (3) WHT.

Check for short between 3431A1P6-D and shield.

Is short present?

Check for continuity from 9L7P1-A to 3431A1P6-E.

Is continuity present?

Repair or replace wire C25A20 (3) BLU.

Check for short between 3431A1P6-E and shield.

Is short present?

Repair or replace wire C25A20 (3) WHT.

Repair or replace wire C25A20 (3) BLU.

Disconnect 3431A1P5.

Check for continuity from 9L7P1-F to 3431A1P5-15.

Is continuity present?

Repair or replace wire C26A24 (8) WHT.

Check for short between 3431A1P5-15 and shield.

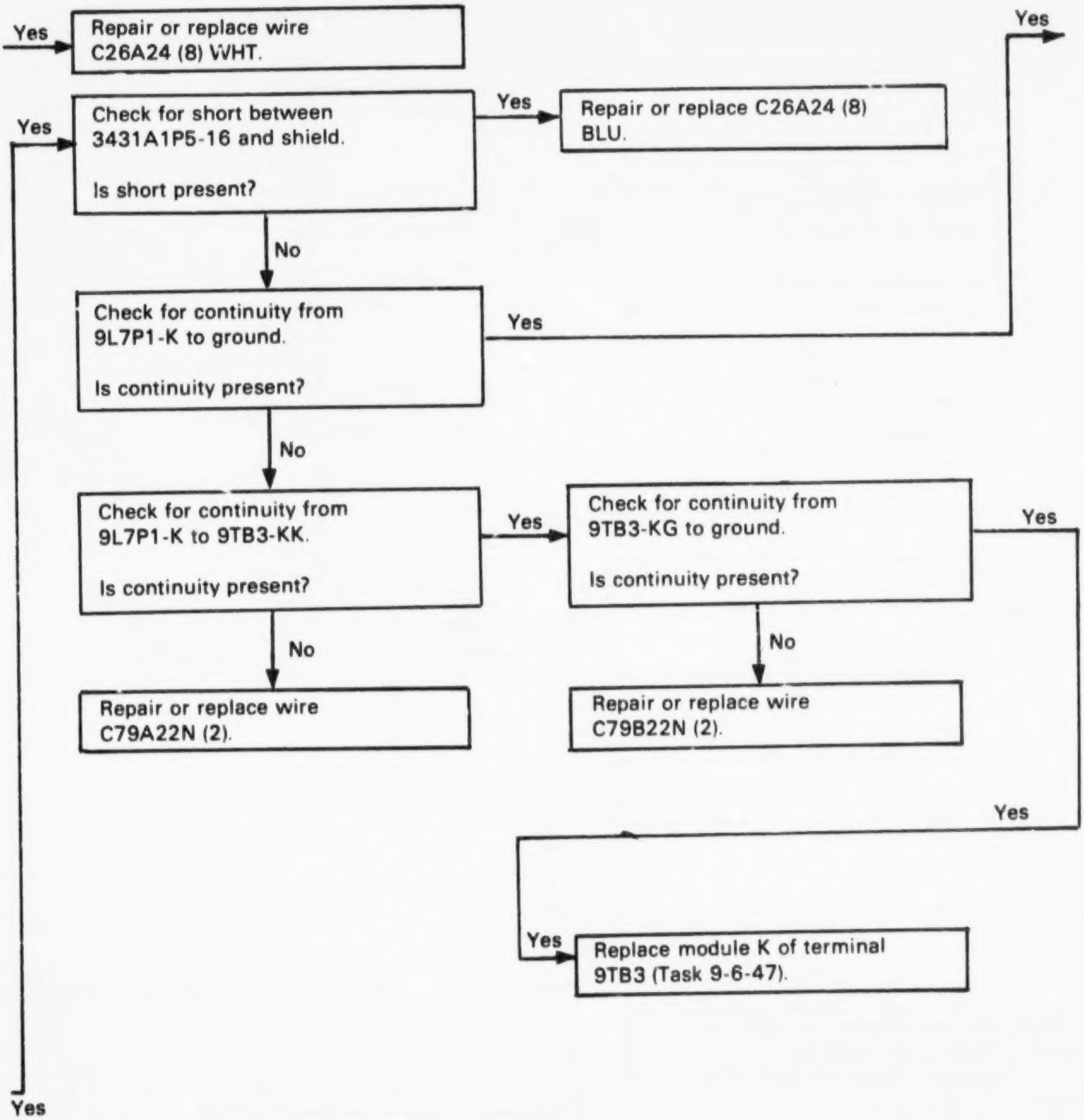
Is short present?

Check for continuity from 9L7P1-J to 3431A1P5-16.

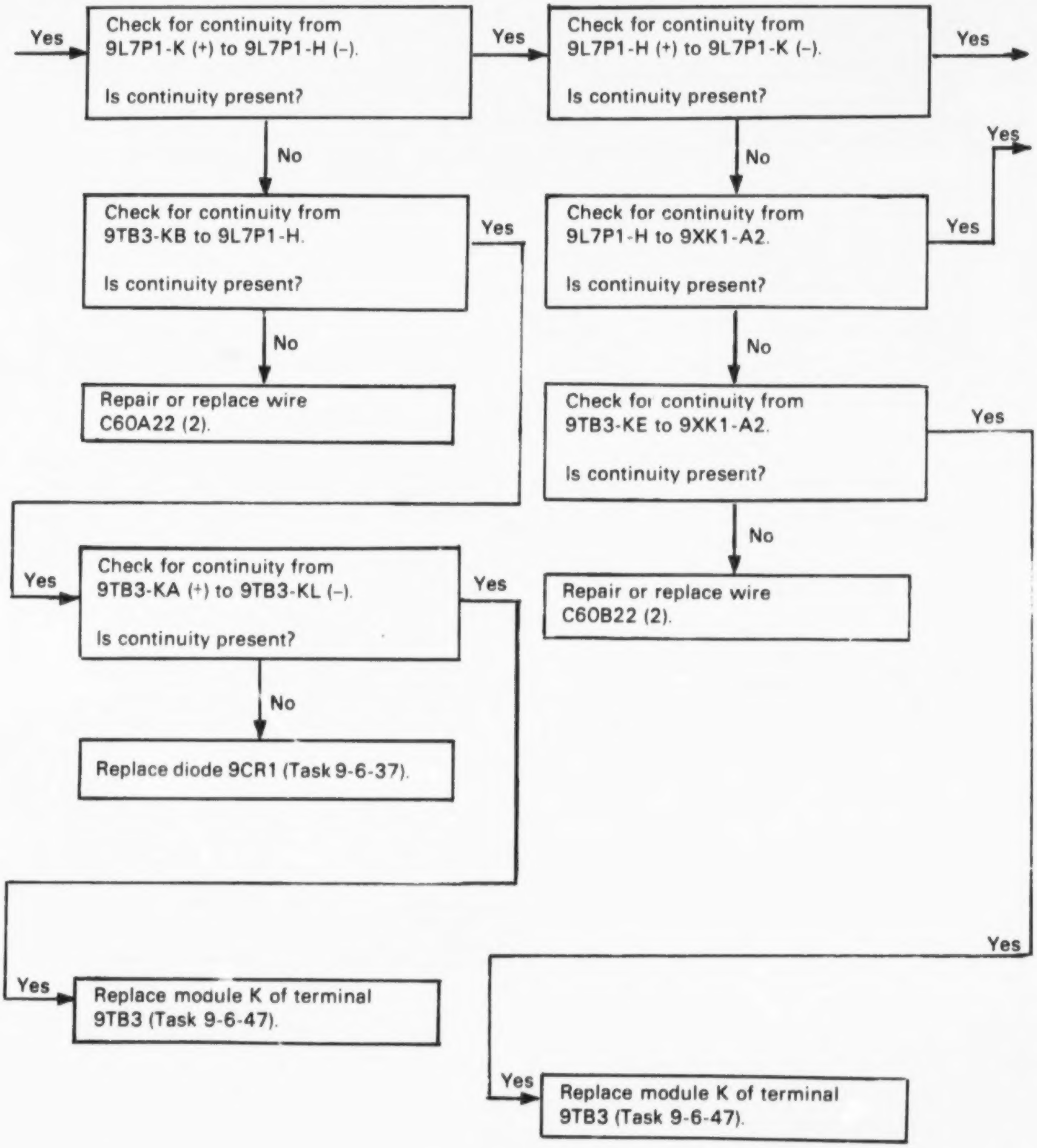
Is continuity present?

Repair or replace wire C26A24 (8) BLU.

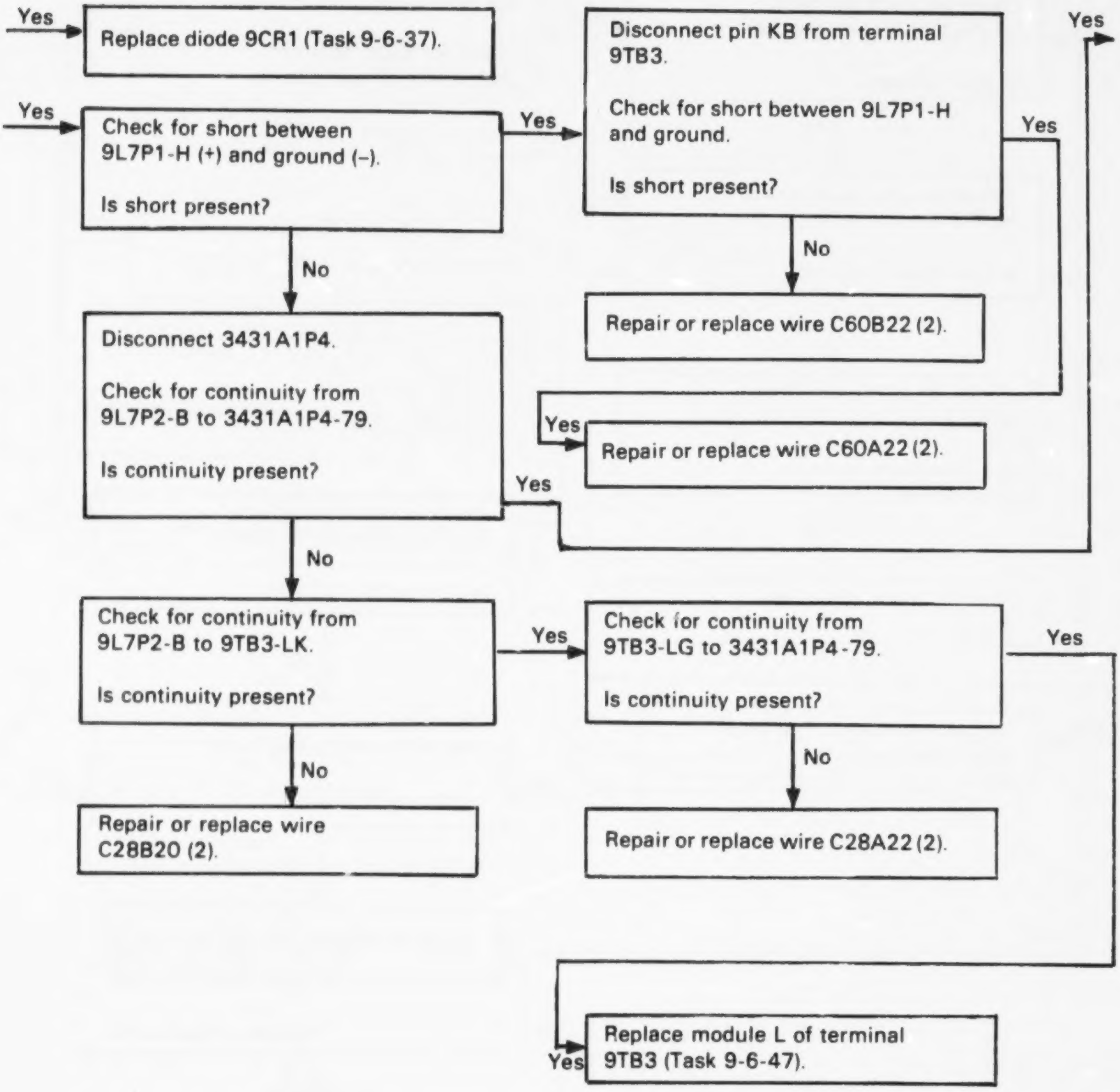
224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


Yes
Repair or replace wire C26A24 (8) WHT.
Yes
Yes
Check for short between 3431A1P5-16 and shield.
Is short present?
Yes
Repair or replace C26A24 (8) BLU.
No
Check for continuity from 9L7P1-K to ground.
Is continuity present?
Yes
No
Check for continuity from 9L7P1-K to 9TB3-KK.
Is continuity present?
Yes
Check for continuity from 9TB3-KG to ground.
Is continuity present?
Yes
No
Repair or replace wire C79A22N (2).
No
Repair or replace wire C79B22N (2).
Yes
Yes
Replace module K of terminal 9TB3 (Task 9-6-47).
Yes

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


Yes
Check for continuity from 9L7P1-K (+) to 9L7P1-H (–).
Is continuity present?
Yes
Check for continuity from 9L7P1-H (+) to 9L7P1-K (–).
Is continuity present?
Yes
No
No
Yes
Check for continuity from 9TB3-KB to 9L7P1-H.
Is continuity present?
Yes
Check for continuity from 9L7P1-H to 9XK1-A2.
Is continuity present?
Yes
No
No
Repair or replace wire C60A22 (2).
Check for continuity from 9TB3-KE to 9XK1-A2.
Is continuity present?
Yes
No
Yes
Check for continuity from 9TB3-KA (+) to 9TB3-KL (–).
Is continuity present?
Yes
Repair or replace wire C60B22 (2).
No
Replace diode 9CR1 (Task 9-6-37).
Yes
Yes
Replace module K of terminal 9TB3 (Task 9-6-47).
Yes
Replace module K of terminal 9TB3 (Task 9-6-47).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Replace diode 9CR1 (Task 9-6-37).

Check for short between 9L7P1-H (+) and ground (–).

Is short present?

Disconnect pin KB from terminal 9TB3.

Check for short between 9L7P1-H and ground.

Is short present?

Repair or replace wire C60B22 (2).

Repair or replace wire C60A22 (2).

Disconnect 3431A1P4.

Check for continuity from 9L7P2-B to 3431A1P4-79.

Is continuity present?

Check for continuity from 9L7P2-B to 9TB3-LK.

Is continuity present?

Check for continuity from 9TB3-LG to 3431A1P4-79.

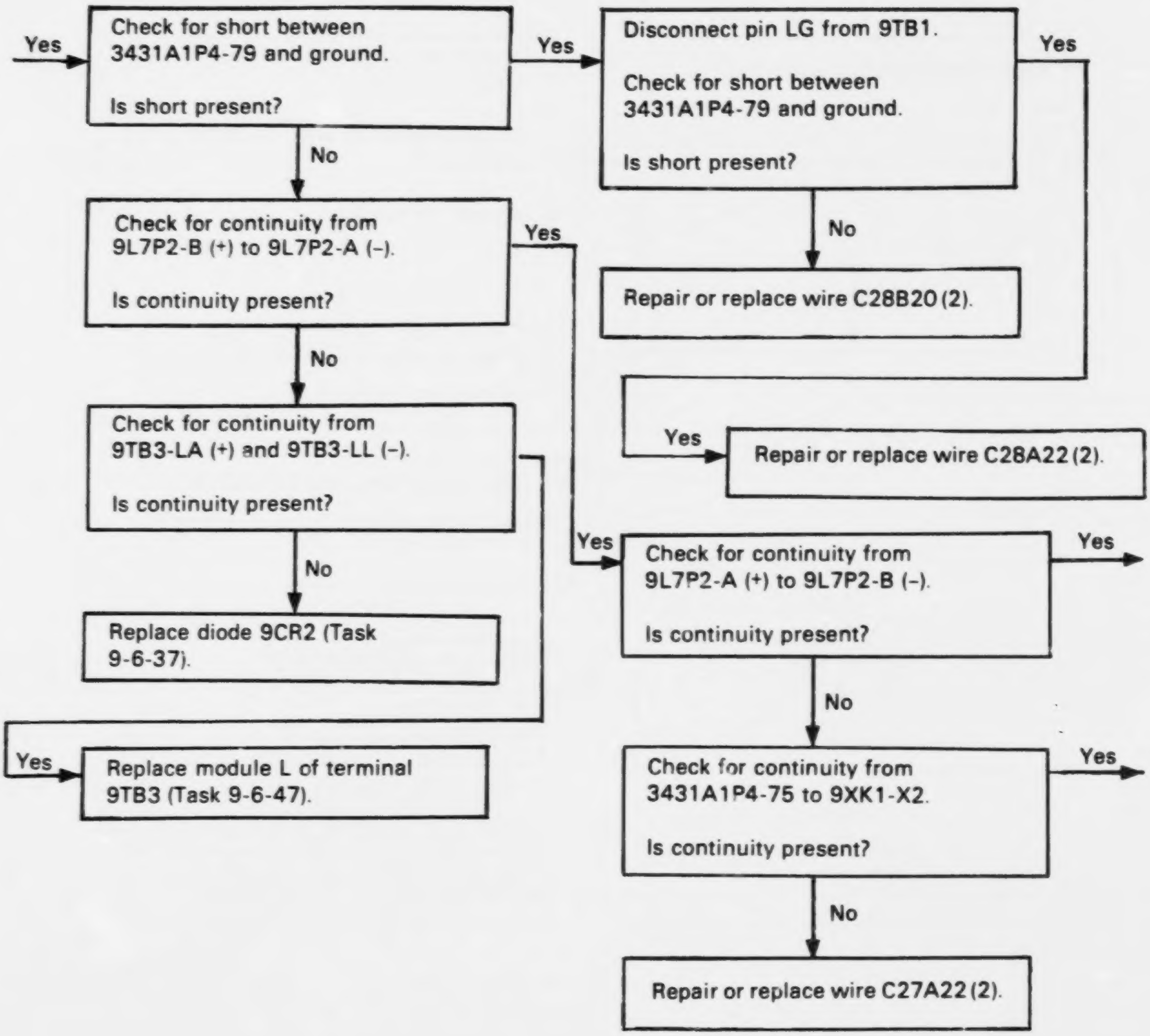
Is continuity present?

Repair or replace wire C28B20 (2).

Repair or replace wire C28A22 (2).

Replace module L of terminal 9TB3 (Task 9-6-47).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Check for short between 3431A1P4-79 and ground.

Is short present?

Disconnect pin LG from 9TB1.

Check for short between 3431A1P4-79 and ground.

Is short present?

Check for continuity from 9L7P2-B (+) to 9L7P2-A (-).

Is continuity present?

Repair or replace wire C28B20 (2).

Check for continuity from 9TB3-LA (+) and 9TB3-LL (-).

Is continuity present?

Repair or replace wire C28A22 (2).

Check for continuity from 9L7P2-A (+) to 9L7P2-B (-).

Is continuity present?

Replace diode 9CR2 (Task 9-6-37).

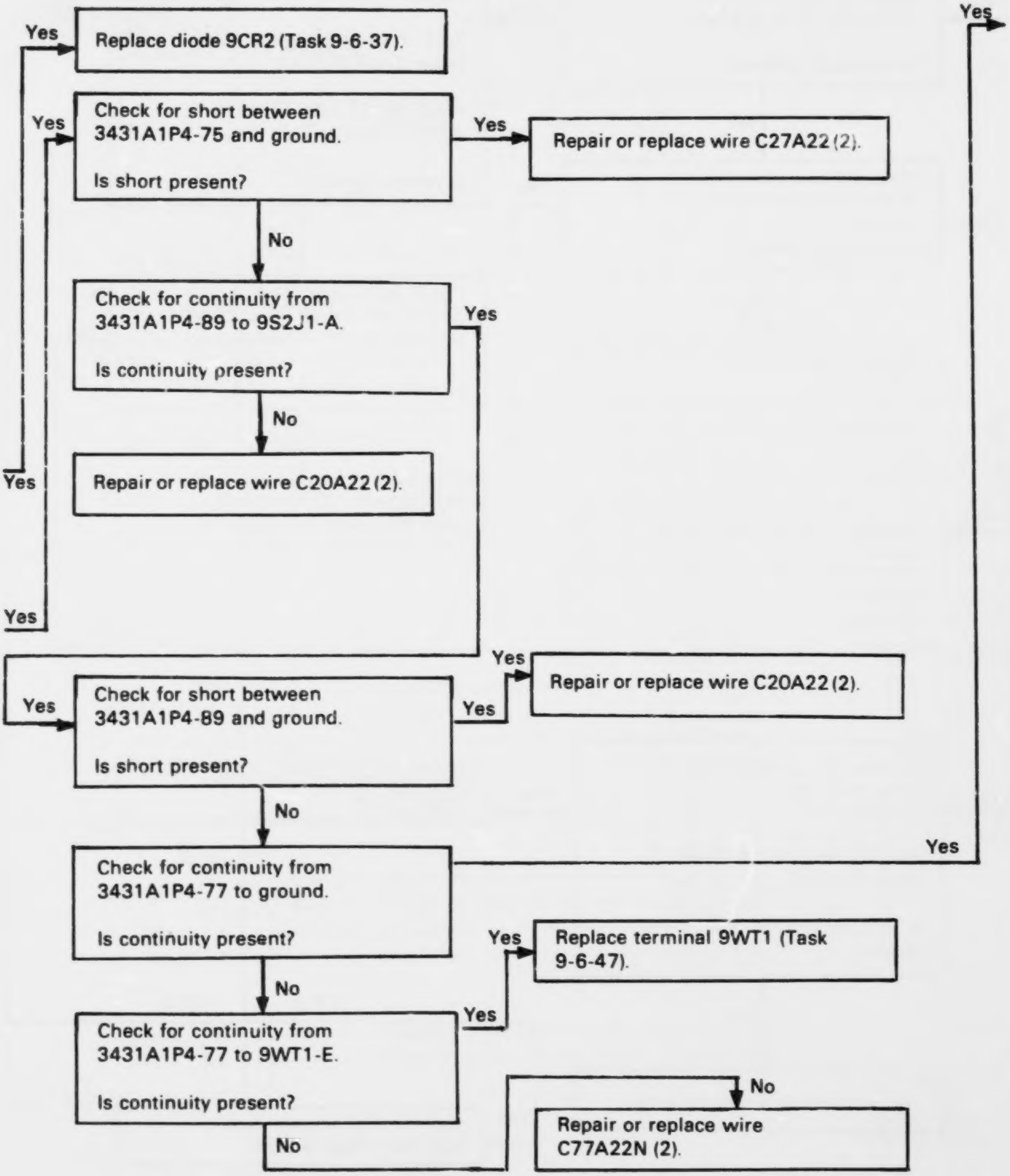
Replace module L of terminal 9TB3 (Task 9-6-47).

Check for continuity from 3431A1P4-75 to 9XK1-X2.

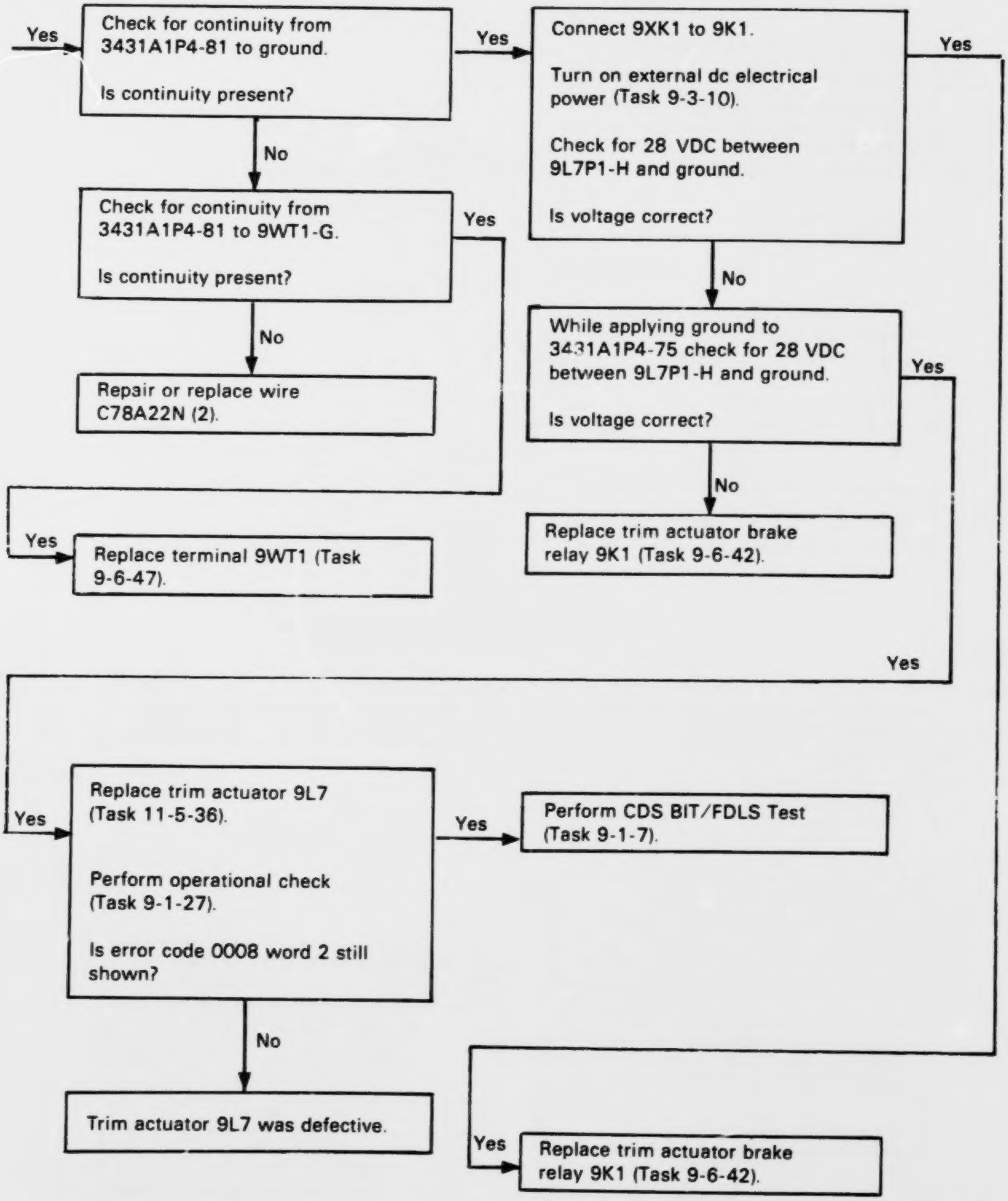
Is continuity present?

Repair or replace wire C27A22 (2).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


Yes
Replace diode 9CR2 (Task 9-6-37).
Yes
Check for short between 3431A1P4-75 and ground.
Is short present?
Yes
Repair or replace wire C27A22 (2).
No
Check for continuity from 3431A1P4-89 to 9S2J1-A.
Is continuity present?
Yes
No
Yes
Repair or replace wire C20A22 (2).
Yes
Yes
Repair or replace wire C20A22 (2).
Yes
Check for short between 3431A1P4-89 and ground.
Is short present?
Yes
No
Check for continuity from 3431A1P4-77 to ground.
Is continuity present?
Yes
Yes
Yes
Replace terminal 9WT1 (Task 9-6-47).
No
Yes
Check for continuity from 3431A1P4-77 to 9WT1-E.
Is continuity present?
No
Repair or replace wire C77A22N (2).
No

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)



Check for continuity from 3431A1P4-81 to ground.

Is continuity present?

Check for continuity from 3431A1P4-81 to 9WT1-G.

Is continuity present?

Repair or replace wire C78A22N (2).

Replace terminal 9WT1 (Task 9-6-47).

Connect 9XK1 to 9K1.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC between 9L7P1-H and ground.

Is voltage correct?

While applying ground to 3431A1P4-75 check for 28 VDC between 9L7P1-H and ground.

Is voltage correct?

Replace trim actuator brake relay 9K1 (Task 9-6-42).

Replace trim actuator 9L7 (Task 11-5-36).

Perform operational check (Task 9-1-27).

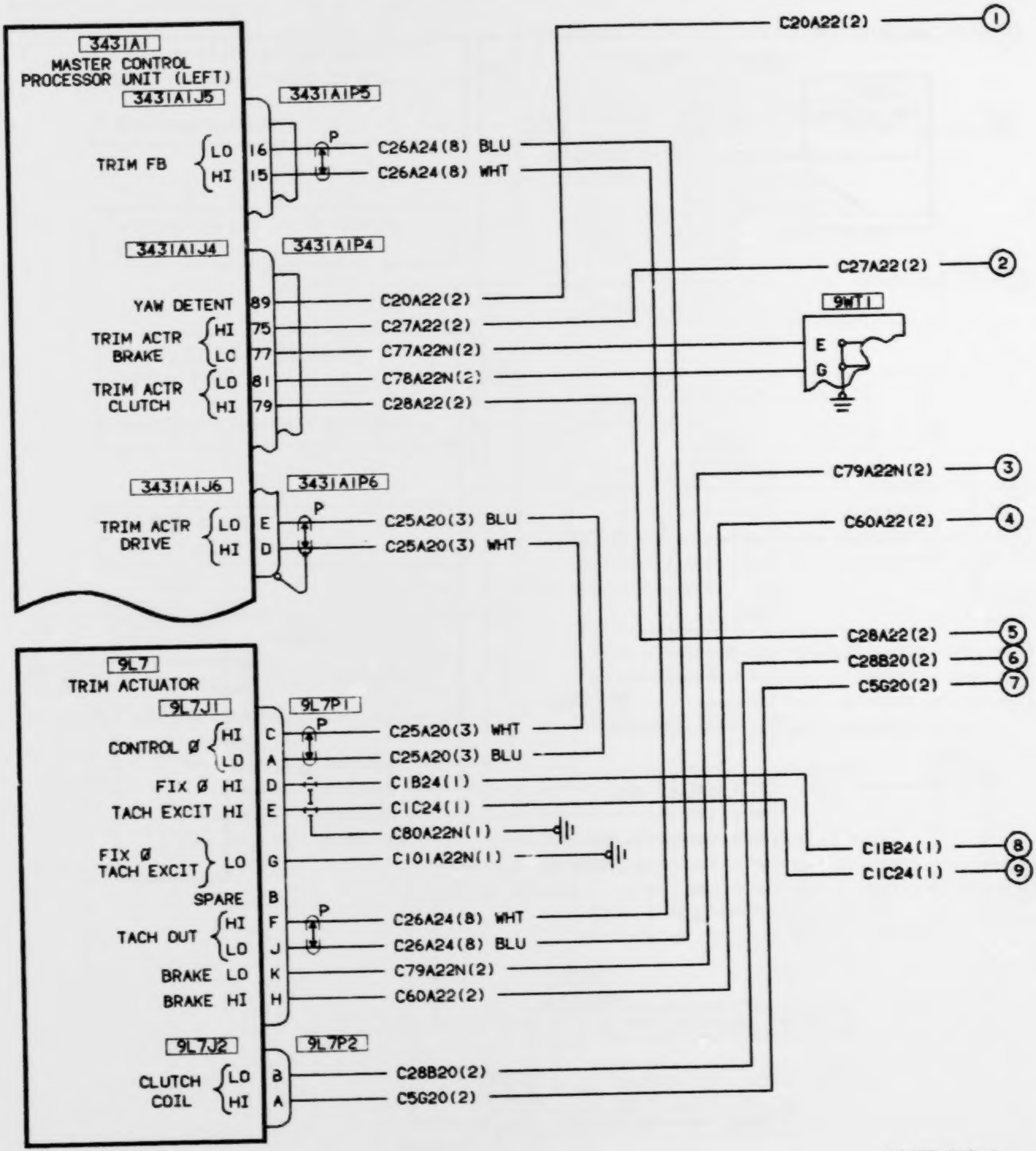
Is error code 0008 word 2 still shown?

Perform CDS BIT/FDLS Test (Task 9-1-7).

Trim actuator 9L7 was defective.

Replace trim actuator brake relay 9K1 (Task 9-6-42).

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1J5
3431A1P5
TRIM FB
LO 16
HI 15
P
C26A24(8) BLU
C26A24(8) WHT
3431A1J4
3431A1P4
YAW DETENT 89
TRIM ACTR BRAKE
HI 75
LO 77
TRIM ACTR CLUTCH
LO 81
HI 79
C20A22(2)
C27A22(2)
C77A22N(2)
C78A22N(2)
C28A22(2)
3431A1J6
3431A1P6
TRIM ACTR DRIVE
LO E
HI D
C25A20(3) BLU
C25A20(3) WHT
C20A22(2) ①
C27A22(2) ②
9WT1
E
G
C79A22N(2) ③
C60A22(2) ④
C28A22(2) ⑤
C28B20(2) ⑥
C5G20(2) ⑦
9L7
TRIM ACTUATOR
9L7J1
9L7P1
CONTROL Ø
HI C
LO A
FIX Ø HI D
TACH EXCIT HI E
FIX Ø TACH EXCIT LO G
SPARE B
TACH OUT
HI F
LO J
BRAKE LO K
BRAKE HI H
C25A20(3) WHT
C25A20(3) BLU
C1B24(1)
C1C24(1)
C80A22N(1)
C101A22N(1)
C26A24(8) WHT
C26A24(8) BLU
C79A22N(2)
C60A22(2)
C1B24(1) ⑧
C1C24(1) ⑨
9L7J2
9L7P2
CLUTCH COIL
LO B
HI A
C28B20(2)
C5G20(2)

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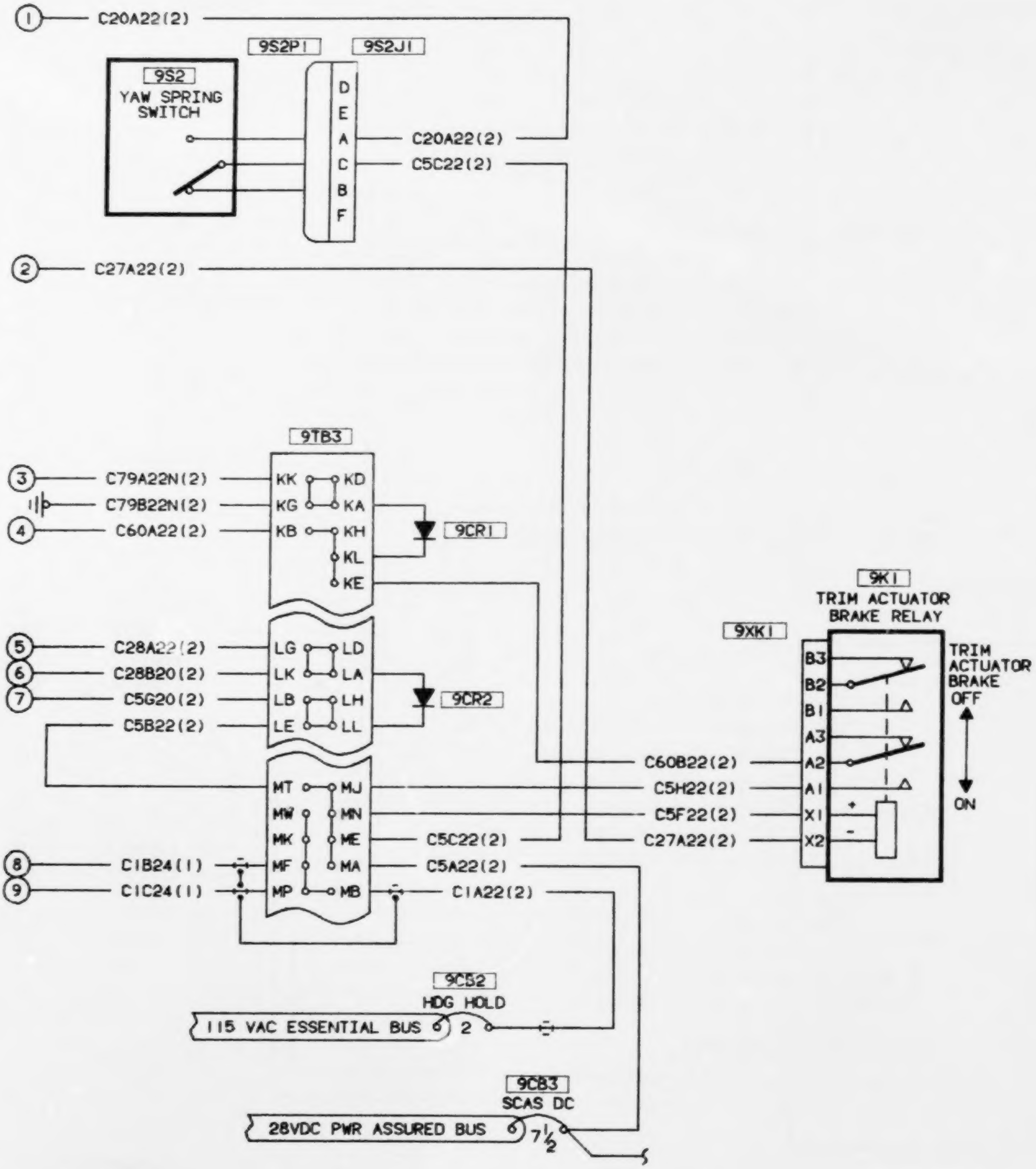
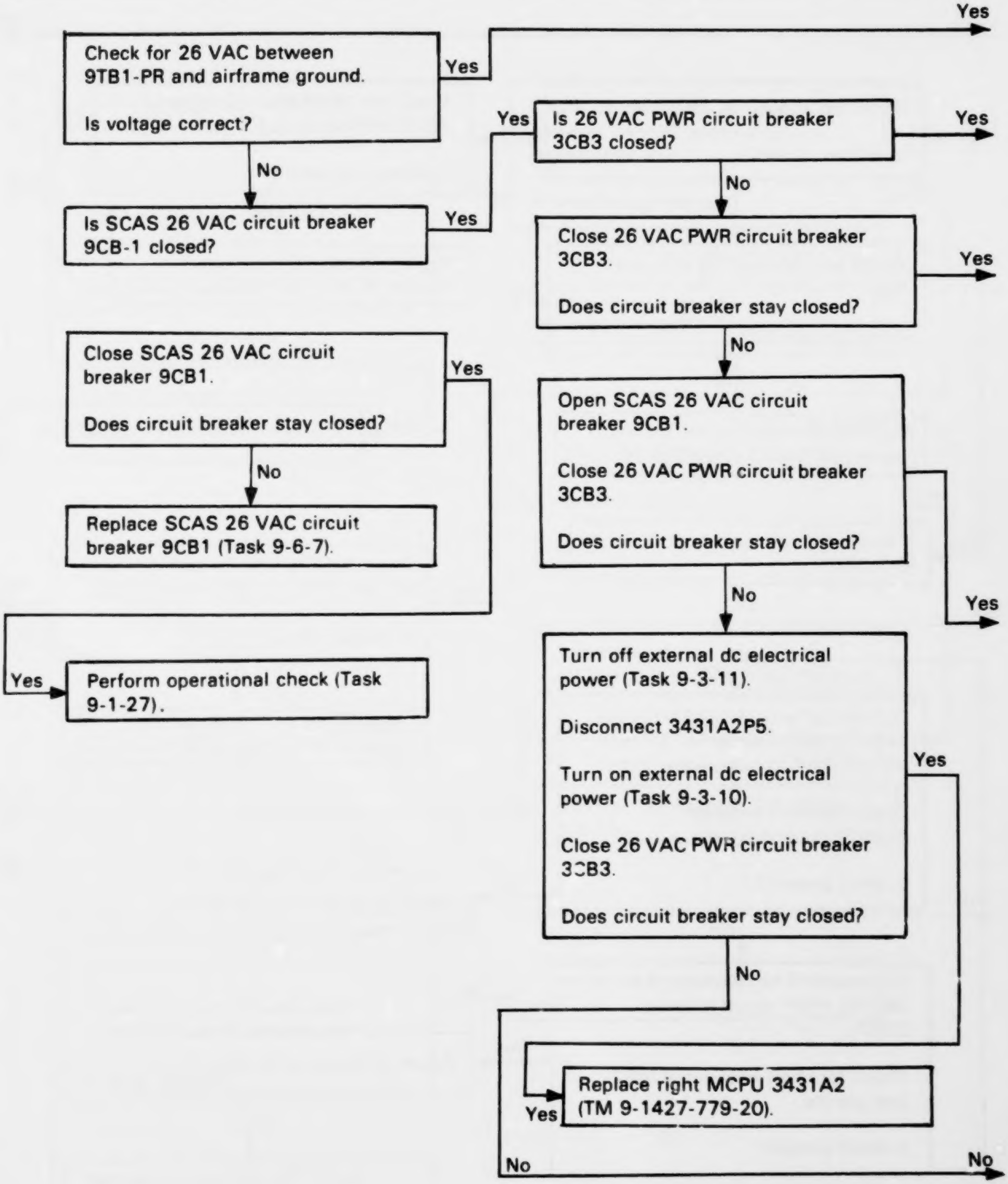
406-475-606A

224. ERROR CODE 0008 WORD 2 TRIM MOTOR FAILURE (CONT)


①
C20A22(2)
9S2P1
9S2J1
9S2
YAW SPRING SWITCH
D
E
A
C
B
F
C20A22(2)
C5C22(2)
②
C27A22(2)
9TB3
③
C79A22N(2)
C79B22N(2)
④
C60A22(2)
KK
KD
KG
KA
KB
KH
KL
KE
9CR1
⑤
C28A22(2)
⑥
C28B20(2)
⑦
C5G20(2)
C5B22(2)
LG
LD
LK
LA
LB
LH
LE
LL
9CR2
MT
MJ
MW
MN
MK
ME
MF
MA
MP
MB
⑧
C1B24(1)
⑨
C1C24(1)
C5C22(2)
C5A22(2)
C1A22(2)
9K1
TRIM ACTUATOR BRAKE RELAY
9XK1
B3
B2
B1
A3
A2
A1
X1
X2
+
-
TRIM ACTUATOR BRAKE OFF
ON
C60B22(2)
C5H22(2)
C5F22(2)
C27A22(2)
9CB2
HDG HOLD
115 VAC ESSENTIAL BUS
2
9CB3
SCAS DC
28VDC PWR ASSURED BUS
7½

406475-249-2
406-475-606A

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE



Check for 26 VAC between 9TB1-PR and airframe ground.

Is voltage correct?

Is SCAS 26 VAC circuit breaker 9CB-1 closed?

Is 26 VAC PWR circuit breaker 3CB3 closed?

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

Close SCAS 26 VAC circuit breaker 9CB1.

Does circuit breaker stay closed?

Open SCAS 26 VAC circuit breaker 9CB1.

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

Replace SCAS 26 VAC circuit breaker 9CB1 (Task 9-6-7).

Perform operational check (Task 9-1-27).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5.

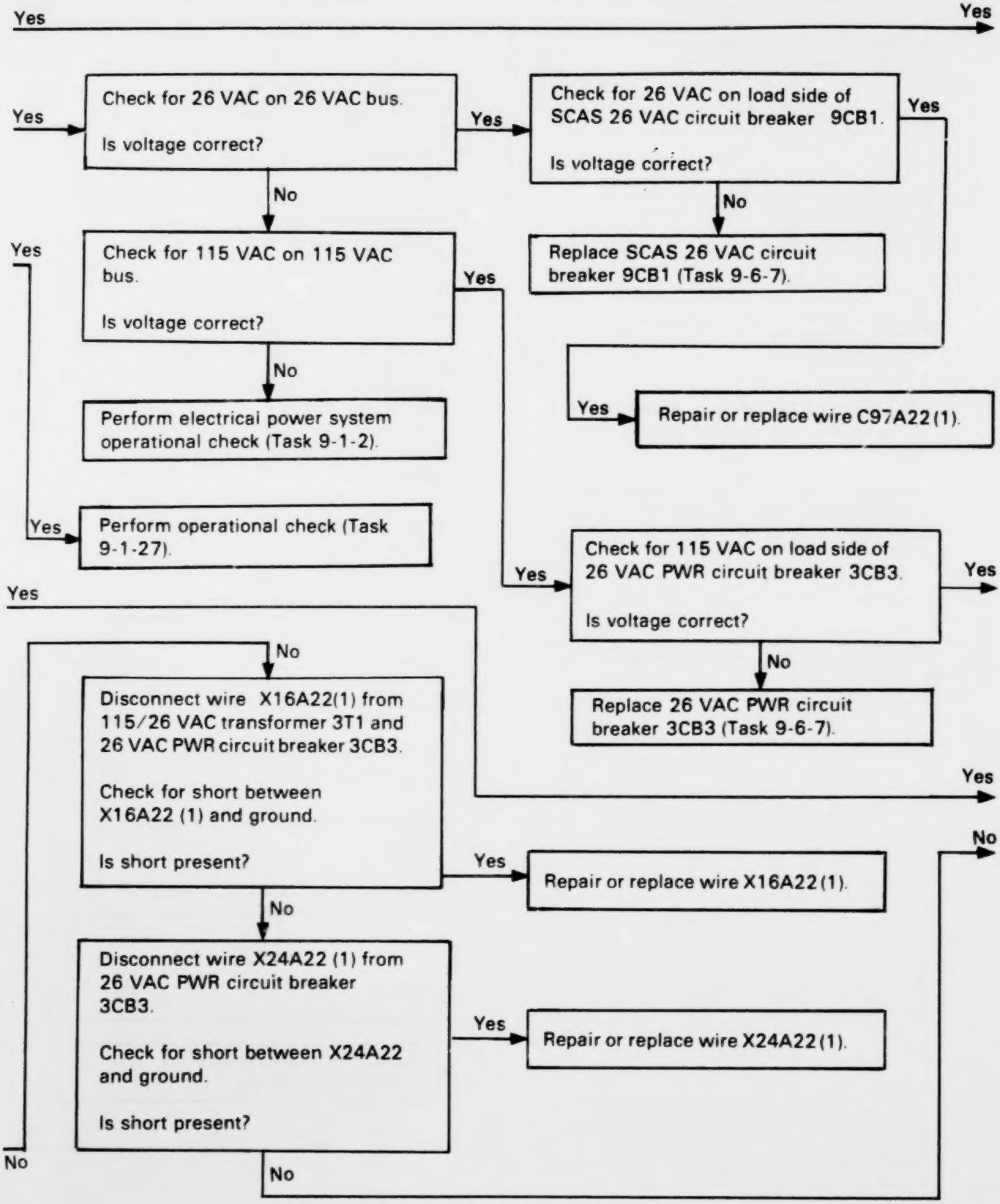
Turn on external dc electrical power (Task 9-3-10).

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

Replace right MCPU 3431A2 (TM 9-1427-779-20).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Check for 26 VAC on 26 VAC bus.

Is voltage correct?

Check for 26 VAC on load side of SCAS 26 VAC circuit breaker 9CB1.

Is voltage correct?

Replace SCAS 26 VAC circuit breaker 9CB1 (Task 9-6-7).

Check for 115 VAC on 115 VAC bus.

Is voltage correct?

Perform electrical power system operational check (Task 9-1-2).

Repair or replace wire C97A22(1).

Perform operational check (Task 9-1-27).

Check for 115 VAC on load side of 26 VAC PWR circuit breaker 3CB3.

Is voltage correct?

Replace 26 VAC PWR circuit breaker 3CB3 (Task 9-6-7).

Disconnect wire X16A22(1) from 115/26 VAC transformer 3T1 and 26 VAC PWR circuit breaker 3CB3.

Check for short between X16A22 (1) and ground.

Is short present?

Repair or replace wire X16A22(1).

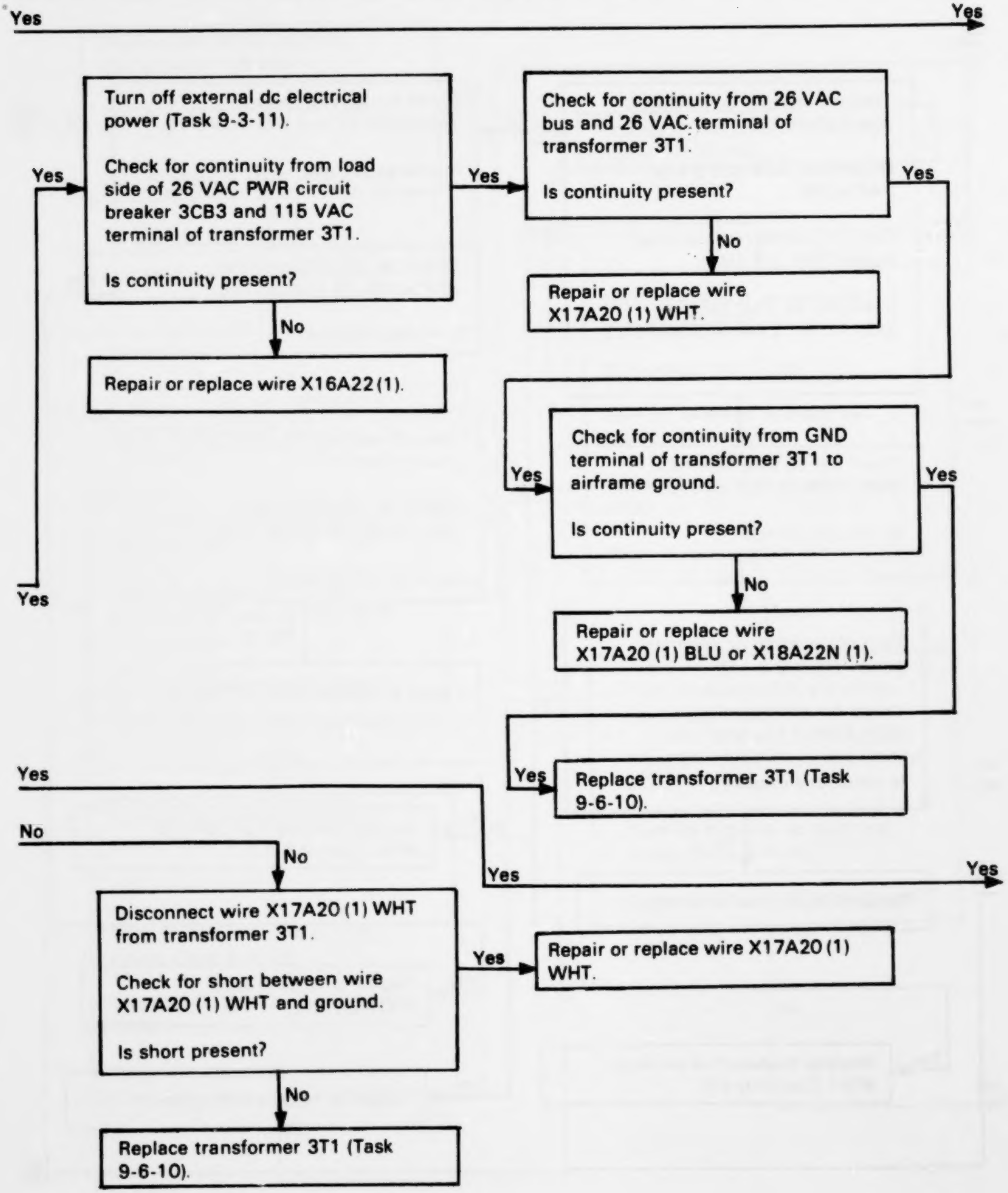
Disconnect wire X24A22 (1) from 26 VAC PWR circuit breaker 3CB3.

Check for short between X24A22 and ground.

Is short present?

Repair or replace wire X24A22(1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from load side of 26 VAC PWR circuit breaker 3CB3 and 115 VAC terminal of transformer 3T1.

Is continuity present?

Repair or replace wire X16A22 (1).

Check for continuity from 26 VAC bus and 26 VAC terminal of transformer 3T1.

Is continuity present?

Repair or replace wire X17A20 (1) WHT.

Check for continuity from GND terminal of transformer 3T1 to airframe ground.

Is continuity present?

Repair or replace wire X17A20 (1) BLU or X18A22N (1).

Replace transformer 3T1 (Task 9-6-10).

Disconnect wire X17A20 (1) WHT from transformer 3T1.

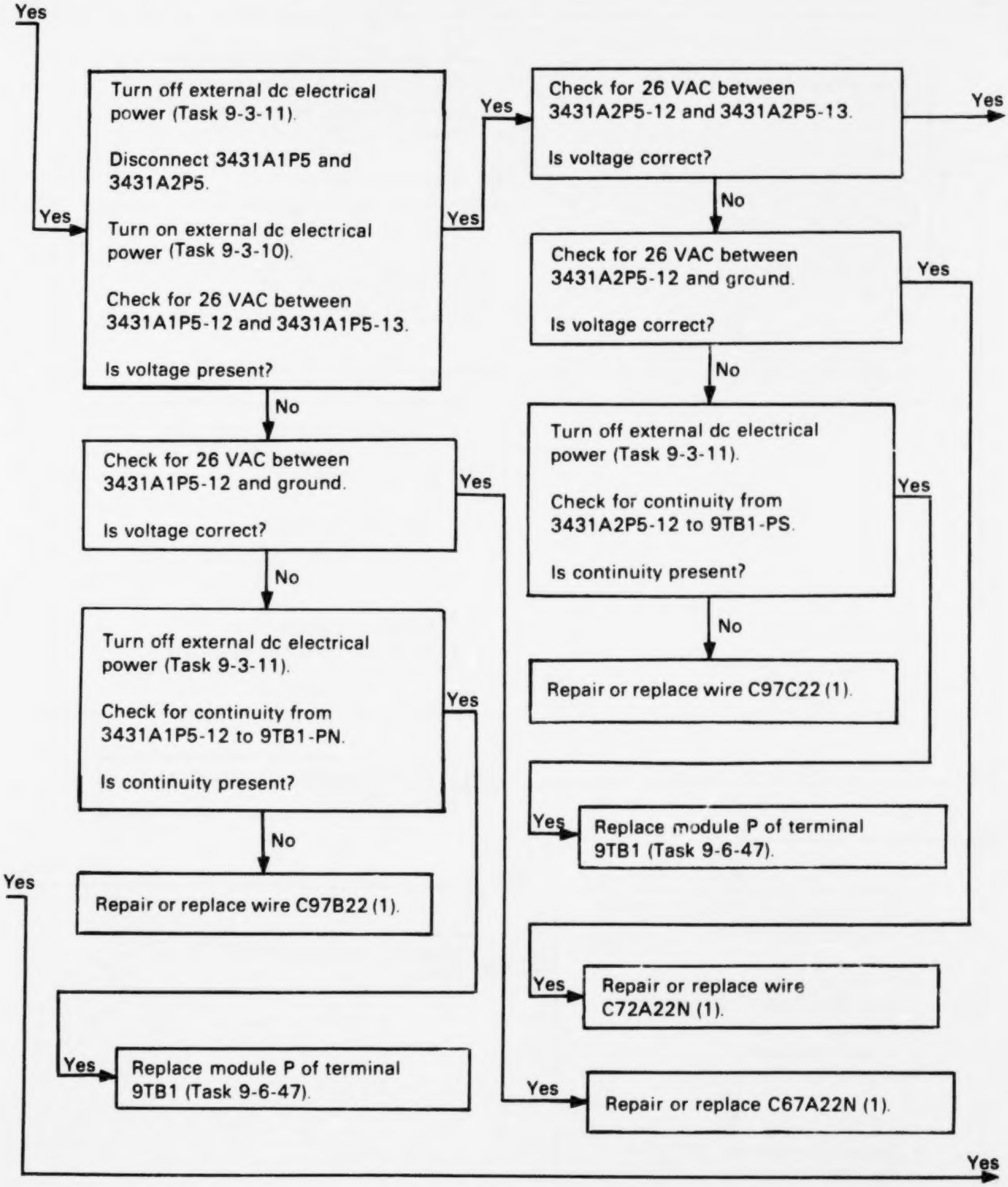
Check for short between wire X17A20 (1) WHT and ground.

Is short present?

Repair or replace wire X17A20 (1) WHT.

Replace transformer 3T1 (Task 9-6-10).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5 and 3431A2P5.

Turn on external dc electrical power (Task 9-3-10).

Check for 26 VAC between 3431A1P5-12 and 3431A1P5-13.

Is voltage present?

Check for 26 VAC between 3431A1P5-12 and ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A1P5-12 to 9TB1-PN.

Is continuity present?

Repair or replace wire C97B22 (1).

Replace module P of terminal 9TB1 (Task 9-6-47).

Check for 26 VAC between 3431A2P5-12 and 3431A2P5-13.

Is voltage correct?

Check for 26 VAC between 3431A2P5-12 and ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3431A2P5-12 to 9TB1-PS.

Is continuity present?

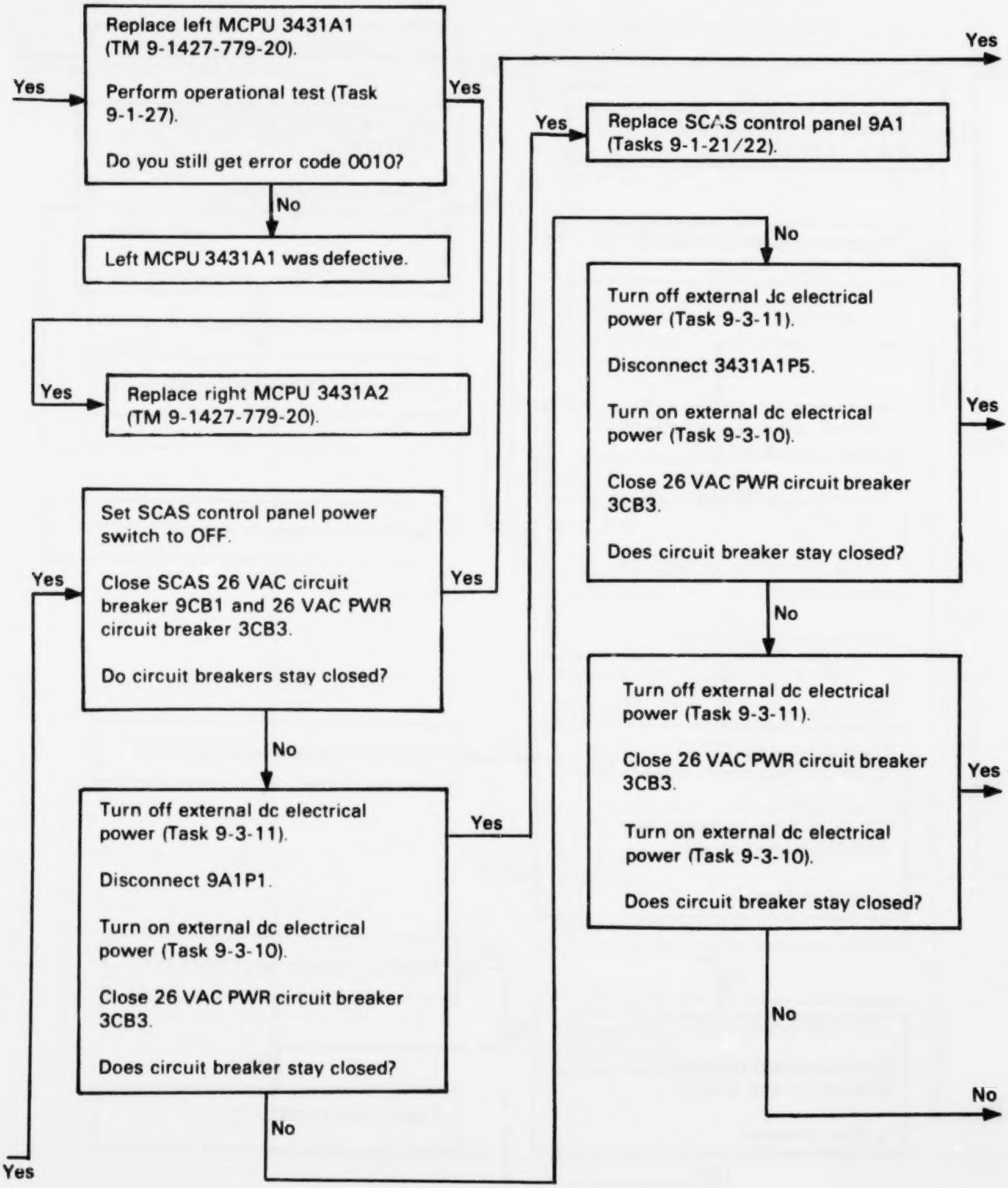
Repair or replace wire C97C22 (1).

Replace module P of terminal 9TB1 (Task 9-6-47).

Repair or replace wire C72A22N (1).

Repair or replace C67A22N (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Replace left MCPU 3431A1 (TM 9-1427-779-20).

Perform operational test (Task 9-1-27).

Do you still get error code 0010?

Left MCPU 3431A1 was defective.

Replace right MCPU 3431A2 (TM 9-1427-779-20).

Set SCAS control panel power switch to OFF.

Close SCAS 26 VAC circuit breaker 9CB1 and 26 VAC PWR circuit breaker 3CB3.

Do circuit breakers stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1.

Turn on external dc electrical power (Task 9-3-10).

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5.

Turn on external dc electrical power (Task 9-3-10).

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

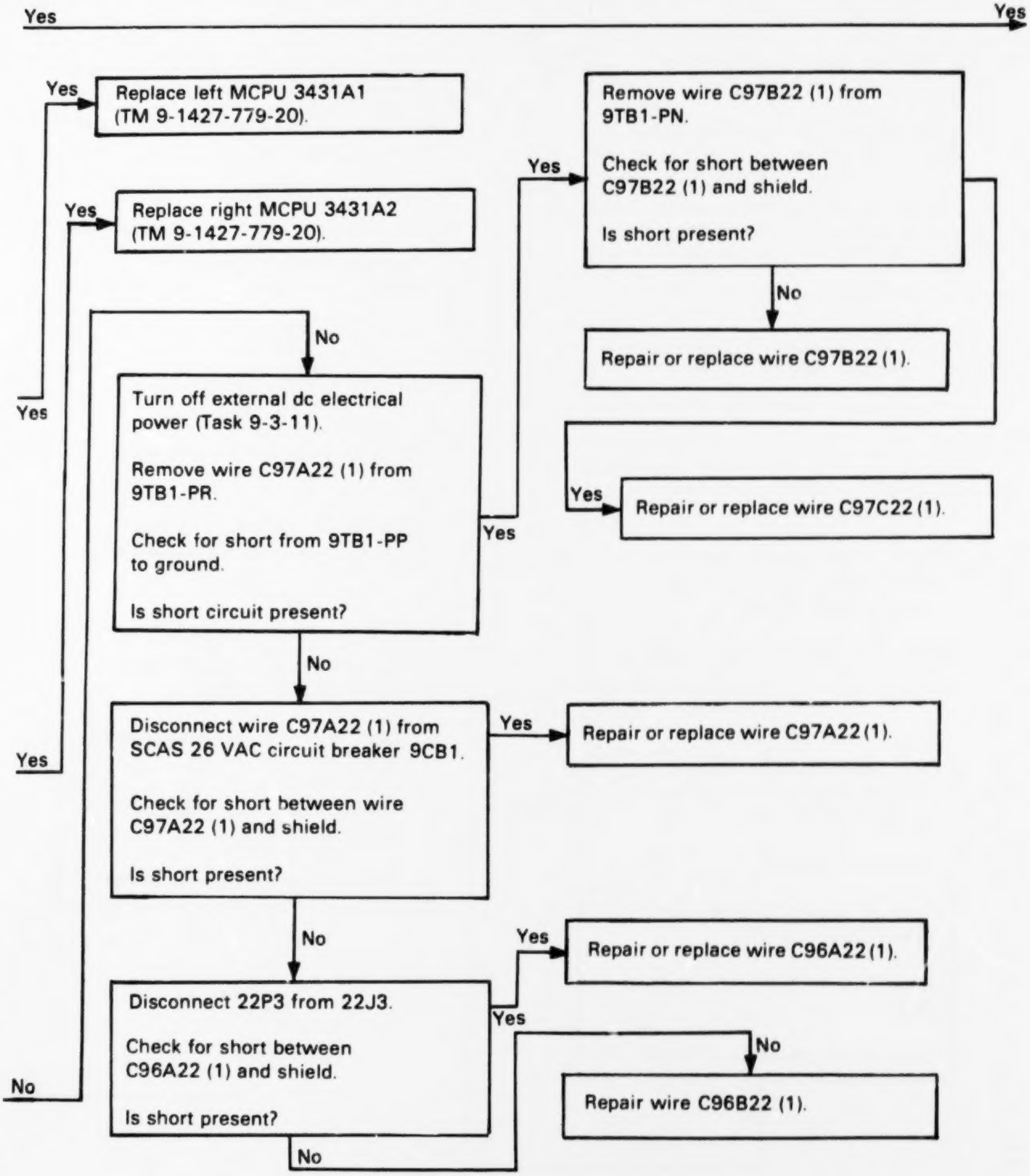
Turn off external dc electrical power (Task 9-3-11).

Close 26 VAC PWR circuit breaker 3CB3.

Turn on external dc electrical power (Task 9-3-10).

Does circuit breaker stay closed?

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Replace left MCPU 3431A1 (TM 9-1427-779-20).

Replace right MCPU 3431A2 (TM 9-1427-779-20).

Turn off external dc electrical power (Task 9-3-11).

Remove wire C97A22 (1) from 9TB1-PR.

Check for short from 9TB1-PP to ground.

Is short circuit present?

Remove wire C97B22 (1) from 9TB1-PN.

Check for short between C97B22 (1) and shield.

Is short present?

Repair or replace wire C97B22 (1).

Repair or replace wire C97C22 (1).

Disconnect wire C97A22 (1) from SCAS 26 VAC circuit breaker 9CB1.

Check for short between wire C97A22 (1) and shield.

Is short present?

Repair or replace wire C97A22 (1).

Disconnect 22P3 from 22J3.

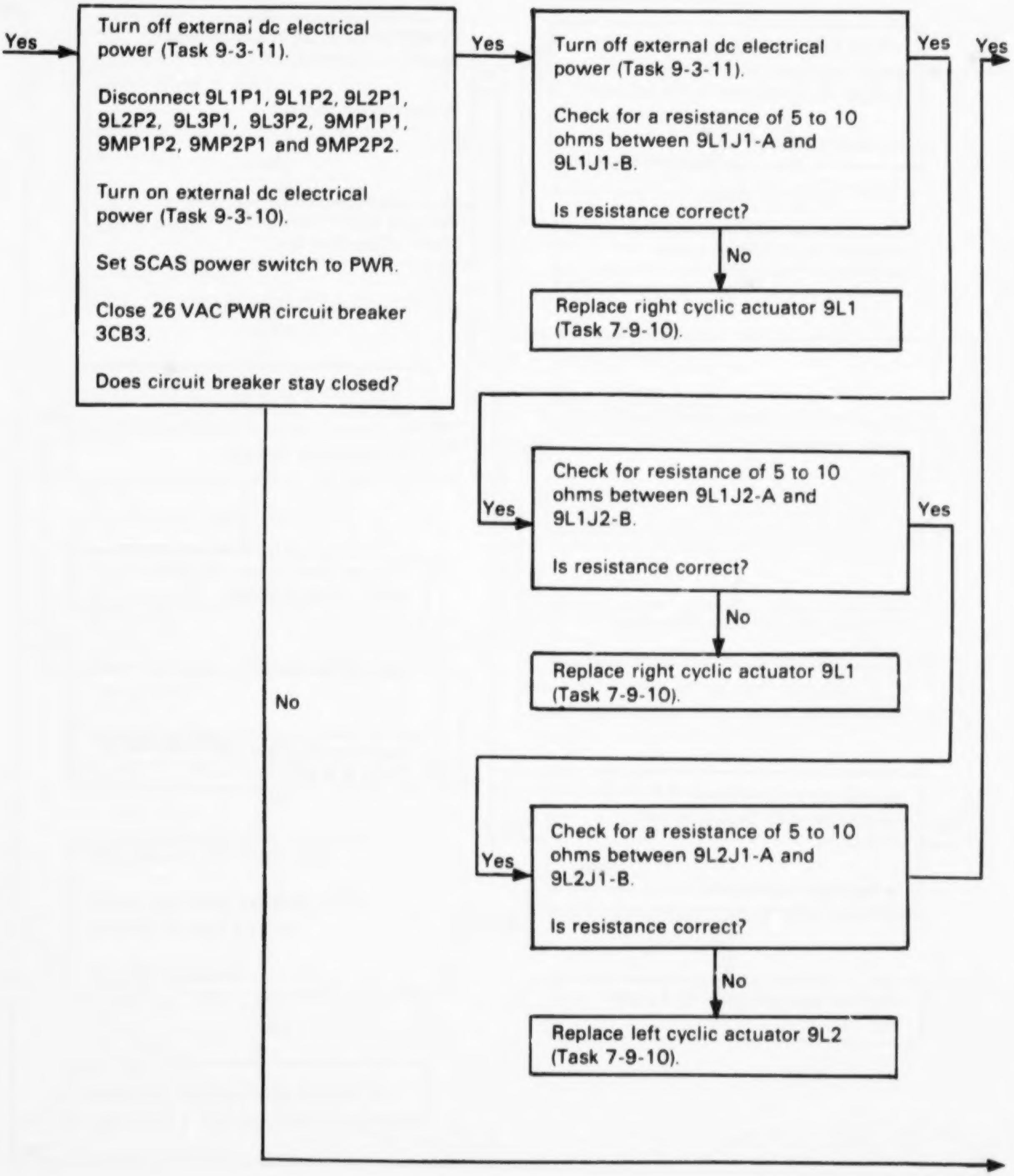
Check for short between C96A22 (1) and shield.

Is short present?

Repair or replace wire C96A22 (1).

Repair wire C96B22 (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)


Turn off external dc electrical power (Task 9-3-11).

Disconnect 9L1P1, 9L1P2, 9L2P1, 9L2P2, 9L3P1, 9L3P2, 9MP1P1, 9MP1P2, 9MP2P1 and 9MP2P2.

Turn on external dc electrical power (Task 9-3-10).

Set SCAS power switch to PWR.

Close 26 VAC PWR circuit breaker 3CB3.

Does circuit breaker stay closed?

Turn off external dc electrical power (Task 9-3-11).

Check for a resistance of 5 to 10 ohms between 9L1J1-A and 9L1J1-B.

Is resistance correct?

Replace right cyclic actuator 9L1 (Task 7-9-10).

Check for resistance of 5 to 10 ohms between 9L1J2-A and 9L1J2-B.

Is resistance correct?

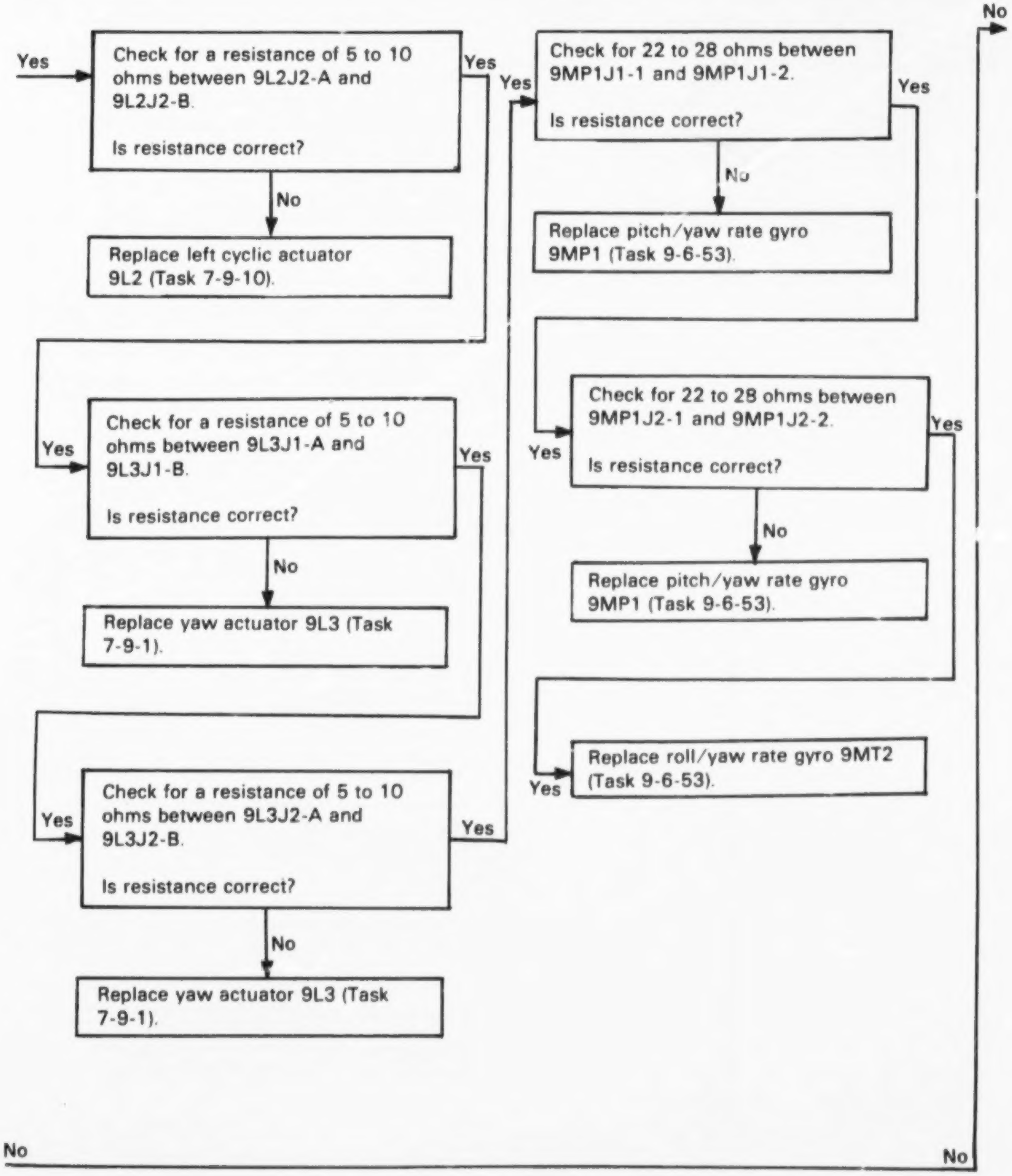
Replace right cyclic actuator 9L1 (Task 7-9-10).

Check for a resistance of 5 to 10 ohms between 9L2J1-A and 9L2J1-B.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Check for a resistance of 5 to 10 ohms between 9L2J2-A and 9L2J2-B.

Is resistance correct?

Replace left cyclic actuator 9L2 (Task 7-9-10).

Check for a resistance of 5 to 10 ohms between 9L3J1-A and 9L3J1-B.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for a resistance of 5 to 10 ohms between 9L3J2-A and 9L3J2-B.

Is resistance correct?

Replace yaw actuator 9L3 (Task 7-9-1).

Check for 22 to 28 ohms between 9MP1J1-1 and 9MP1J1-2.

Is resistance correct?

Replace pitch/yaw rate gyro 9MP1 (Task 9-6-53).

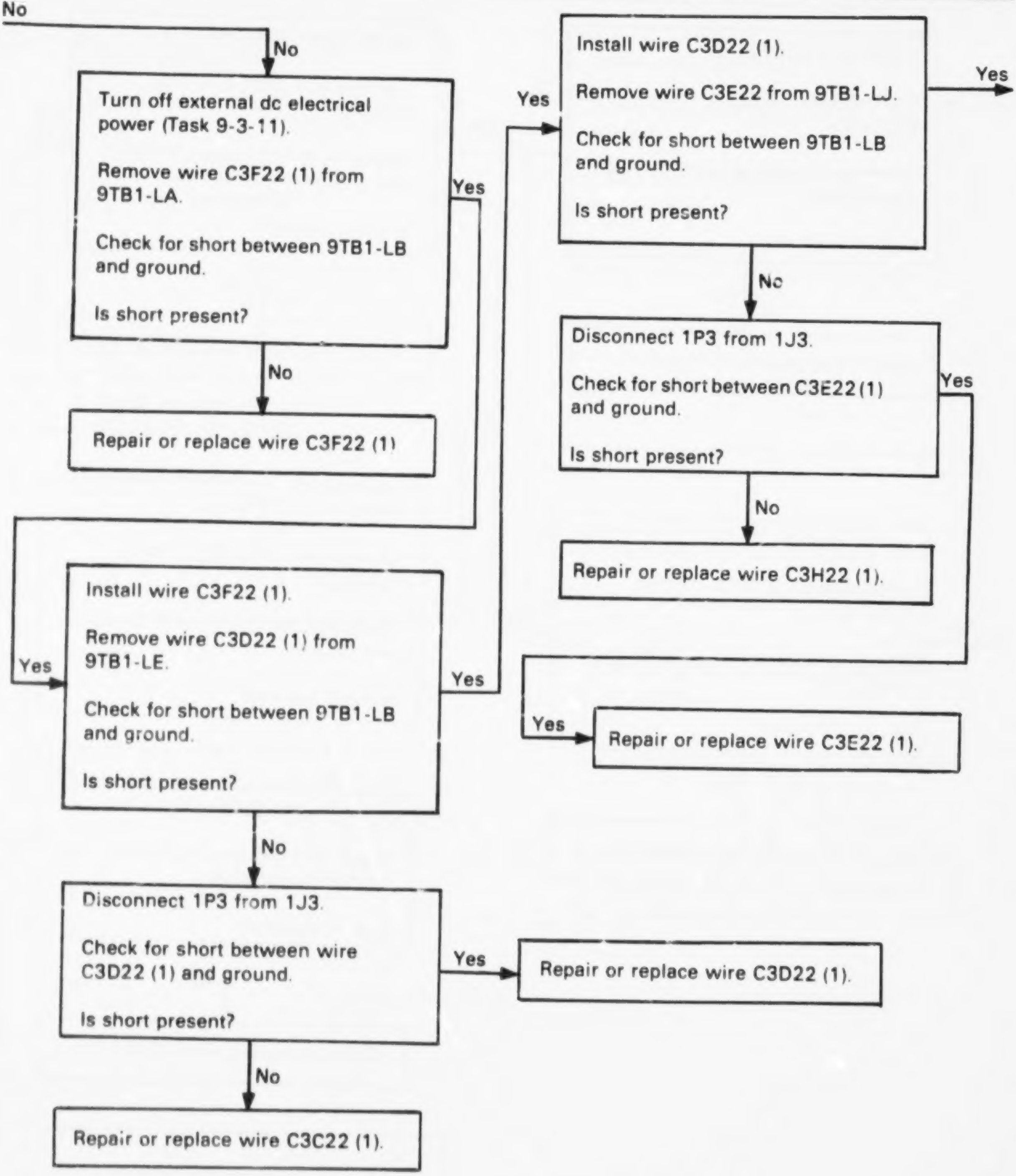
Check for 22 to 28 ohms between 9MP1J2-1 and 9MP1J2-2.

Is resistance correct?

Replace pitch/yaw rate gyro 9MP1 (Task 9-6-53).

Replace roll/yaw rate gyro 9MT2 (Task 9-6-53).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Remove wire C3F22 (1) from 9TB1-LA.

Check for short between 9TB1-LB and ground.

Is short present?

Repair or replace wire C3F22 (1)

Install wire C3F22 (1).

Remove wire C3D22 (1) from 9TB1-LE.

Check for short between 9TB1-LB and ground.

Is short present?

Disconnect 1P3 from 1J3.

Check for short between wire C3D22 (1) and ground.

Is short present?

Repair or replace wire C3D22 (1).

Repair or replace wire C3C22 (1).

Install wire C3D22 (1).

Remove wire C3E22 from 9TB1-LJ.

Check for short between 9TB1-LB and ground.

Is short present?

Disconnect 1P3 from 1J3.

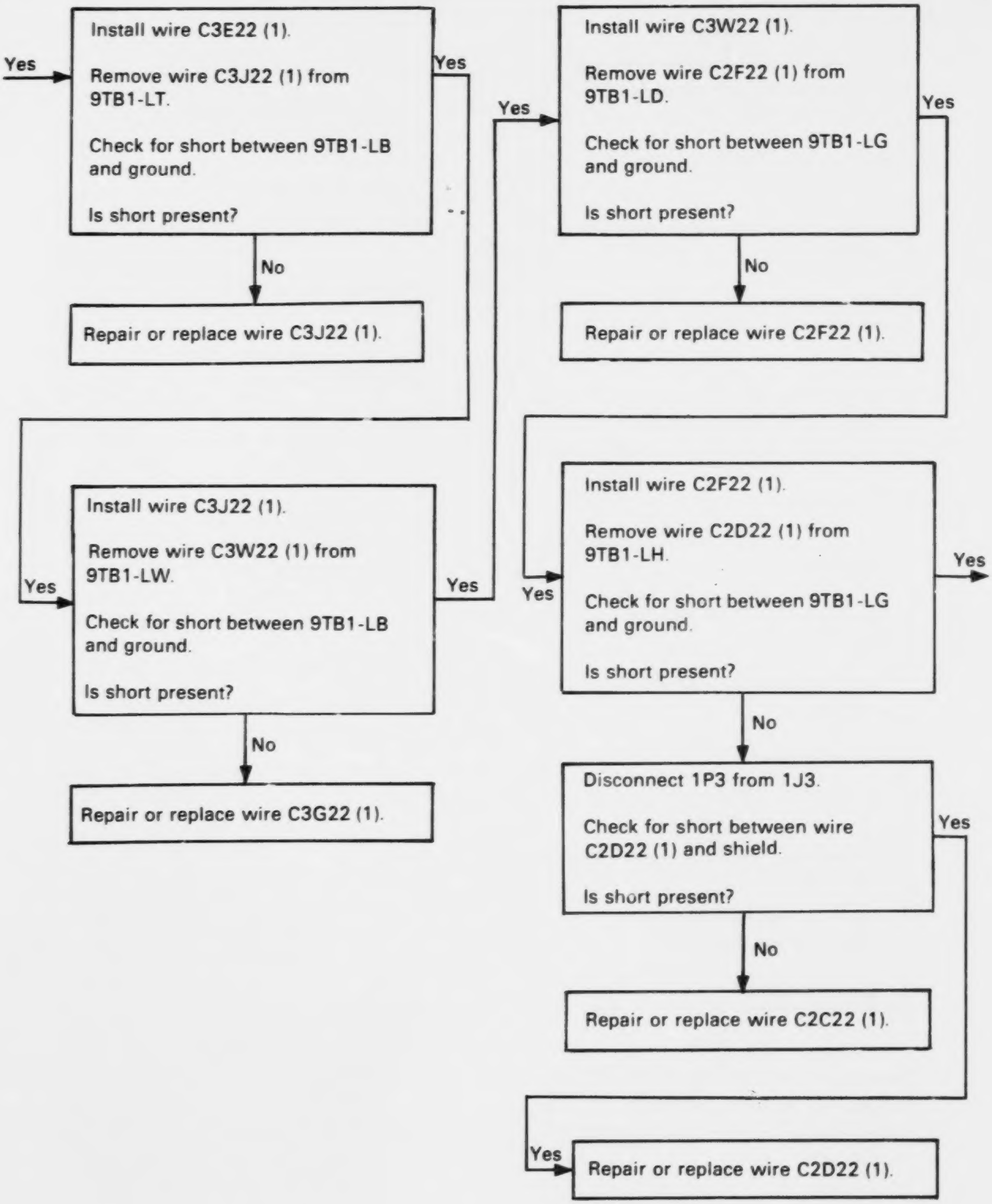
Check for short between C3E22 (1) and ground.

Is short present?

Repair or replace wire C3H22 (1).

Repair or replace wire C3E22 (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Install wire C3E22 (1).

Remove wire C3J22 (1) from 9TB1-LT.

Check for short between 9TB1-LB and ground.

Is short present?

Repair or replace wire C3J22 (1).

Install wire C3J22 (1).

Remove wire C3W22 (1) from 9TB1-LW.

Check for short between 9TB1-LB and ground.

Is short present?

Repair or replace wire C3G22 (1).

Install wire C3W22 (1).

Remove wire C2F22 (1) from 9TB1-LD.

Check for short between 9TB1-LG and ground.

Is short present?

Repair or replace wire C2F22 (1).

Install wire C2F22 (1).

Remove wire C2D22 (1) from 9TB1-LH.

Check for short between 9TB1-LG and ground.

Is short present?

Disconnect 1P3 from 1J3.

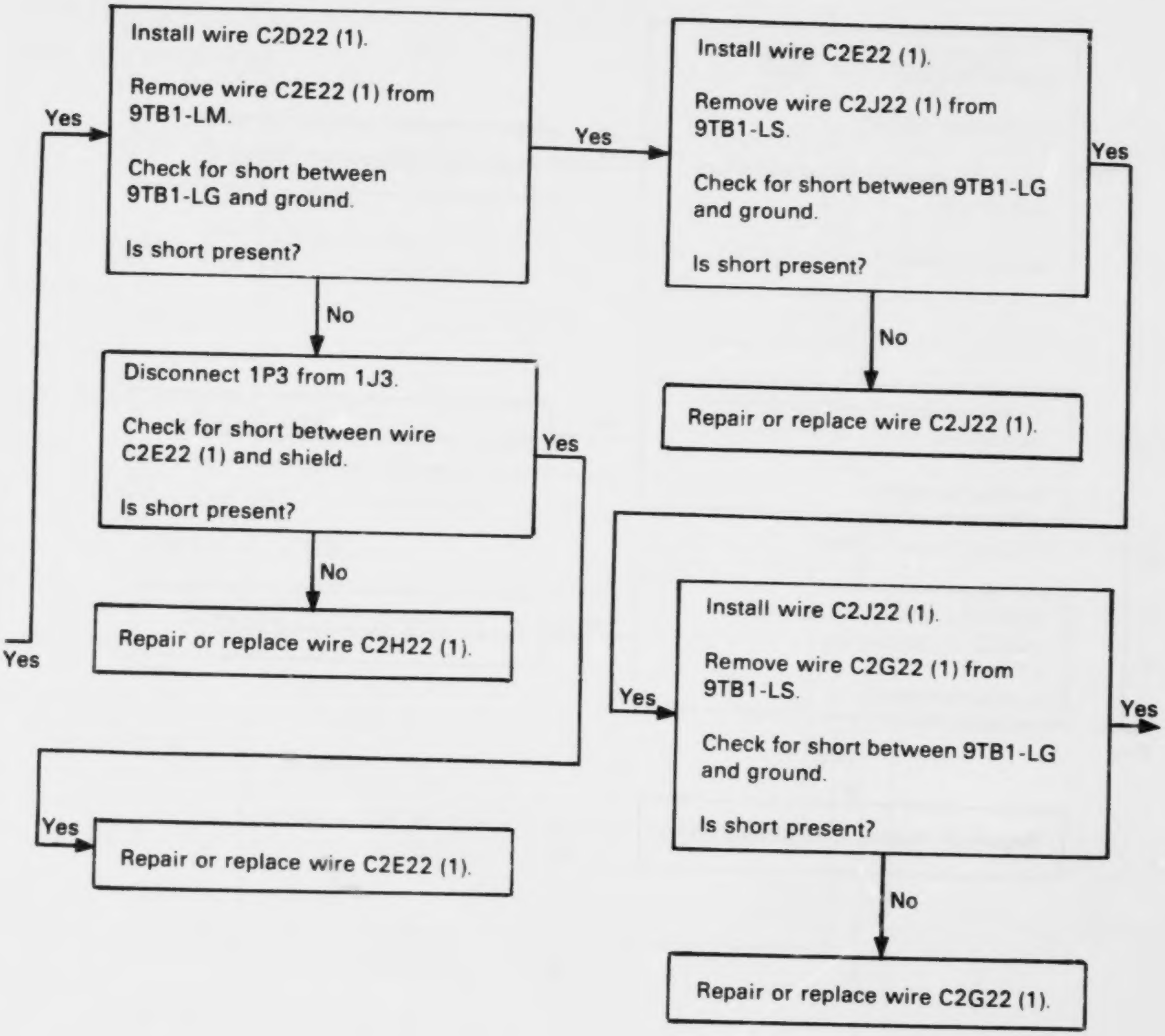
Check for short between wire C2D22 (1) and shield.

Is short present?

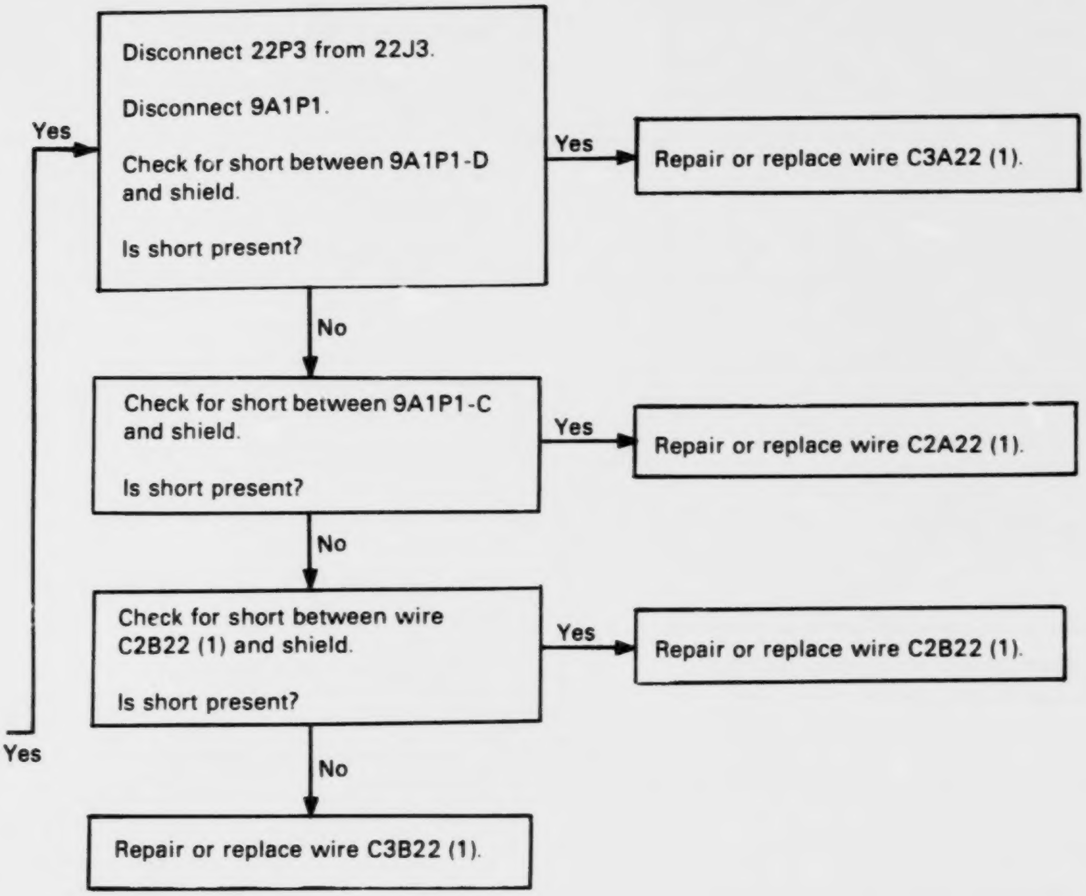
Repair or replace wire C2C22 (1).

Repair or replace wire C2D22 (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)


Yes
Install wire C2D22 (1).
Remove wire C2E22 (1) from 9TB1-LM.
Check for short between 9TB1-LG and ground.
Is short present?
Yes
Install wire C2E22 (1).
Remove wire C2J22 (1) from 9TB1-LS.
Check for short between 9TB1-LG and ground.
Is short present?
Yes
No
No
Disconnect 1P3 from 1J3.
Check for short between wire C2E22 (1) and shield.
Is short present?
Yes
Repair or replace wire C2J22 (1).
No
Yes
Repair or replace wire C2H22 (1).
Install wire C2J22 (1).
Remove wire C2G22 (1) from 9TB1-LS.
Check for short between 9TB1-LG and ground.
Is short present?
Yes
Yes
Yes
Repair or replace wire C2E22 (1).
No
Repair or replace wire C2G22 (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)



Disconnect 22P3 from 22J3.

Disconnect 9A1P1.

Check for short between 9A1P1-D and shield.

Is short present?

Repair or replace wire C3A22 (1).

Check for short between 9A1P1-C and shield.

Is short present?

Repair or replace wire C2A22 (1).

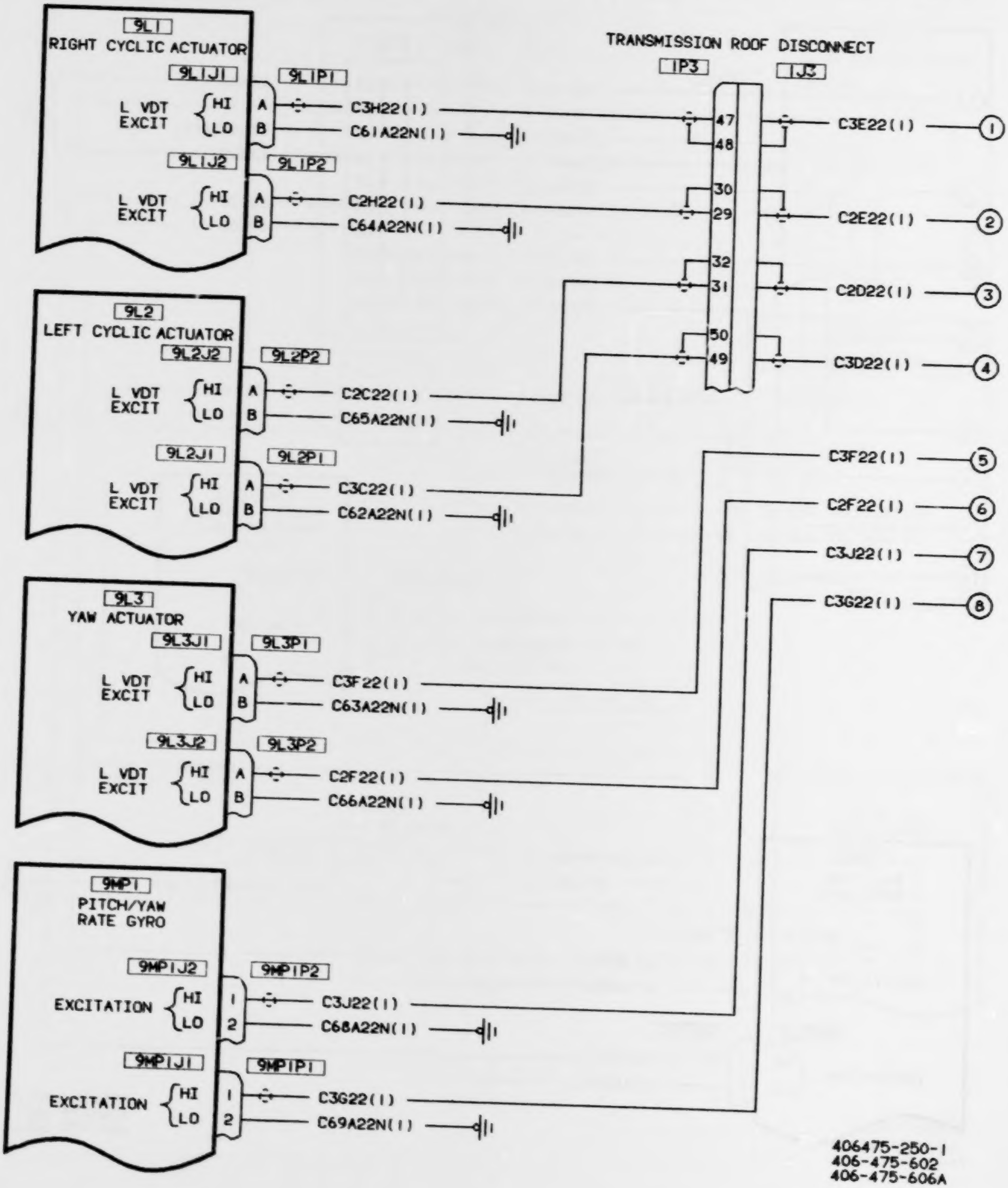
Check for short between wire C2B22 (1) and shield.

Is short present?

Repair or replace wire C2B22 (1).

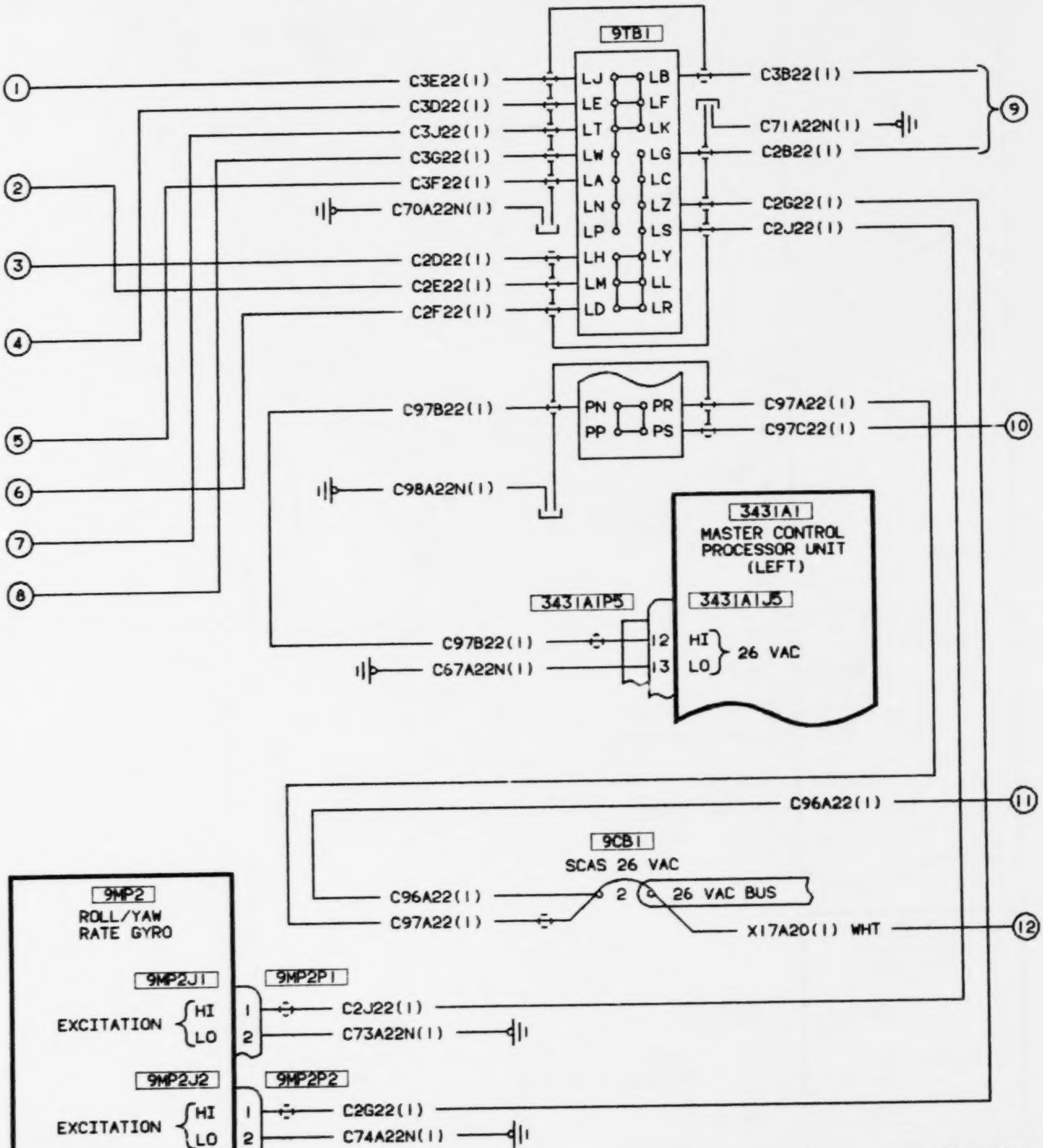
Repair or replace wire C3B22 (1).

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)


9L1
RIGHT CYCLIC ACTUATOR
9L1J1
9L1P1
L VDT EXCIT
HI
LO
A
B
C3H22(1)
C61A22N(1)
9L1J2
9L1P2
L VDT EXCIT
HI
LO
A
B
C2H22(1)
C64A22N(1)
TRANSMISSION ROOF DISCONNECT
1P3
1J3
47
48
30
29
32
31
50
49
C3E22(1)
C2E22(1)
C2D22(1)
C3D22(1)
1
2
3
4
9L2
LEFT CYCLIC ACTUATOR
9L2J2
9L2P2
L VDT EXCIT
HI
LO
A
B
C2C22(1)
C65A22N(1)
9L2J1
9L2P1
L VDT EXCIT
HI
LO
A
B
C3C22(1)
C62A22N(1)
C3F22(1)
5
C2F22(1)
6
C3J22(1)
7
C3G22(1)
8
9L3
YAW ACTUATOR
9L3J1
9L3P1
L VDT EXCIT
HI
LO
A
B
C3F22(1)
C63A22N(1)
9L3J2
9L3P2
L VDT EXCIT
HI
LO
A
B
C2F22(1)
C66A22N(1)
9MP1
PITCH/YAW RATE GYRO
9MP1J2
9MP1P2
EXCITATION
HI
LO
1
2
C3J22(1)
C68A22N(1)
9MP1J1
9MP1P1
EXCITATION
HI
LO
1
2
C3G22(1)
C69A22N(1)

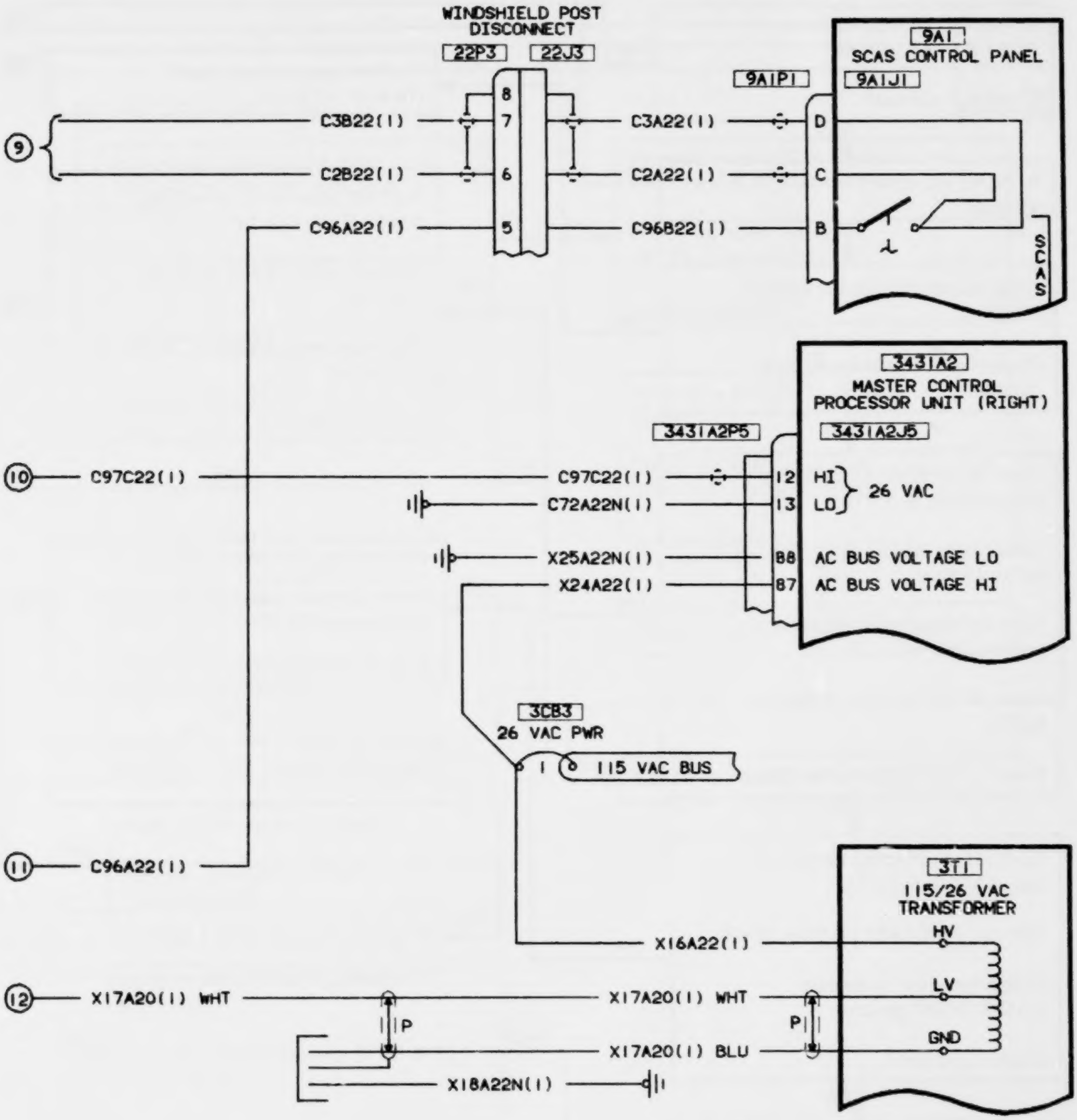
406475-250-1
406-475-602
406-475-606A

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)


9TB1
①
C3E22(1)
C3D22(1)
C3J22(1)
C3G22(1)
C3F22(1)
②
C70A22N(1)
③
C2D22(1)
C2E22(1)
C2F22(1)
④
LJ
LE
LT
LW
LA
LN
LP
LH
LM
LD
LB
LF
LK
LG
LC
LZ
LS
LY
LL
LR
C3B22(1)
C71A22N(1)
C2B22(1)
⑨
C2G22(1)
C2J22(1)
C97B22(1)
PN
PP
PR
PS
C97A22(1)
C97C22(1)
⑩
⑤
⑥
C98A22N(1)
⑦
⑧
3431A1
MASTER CONTROL
PROCESSOR UNIT
(LEFT)
3431A1P5
3431A1J5
C97B22(1)
C67A22N(1)
12
13
HI
LO
26 VAC
C96A22(1)
⑪
9CB1
SCAS 26 VAC
C96A22(1)
C97A22(1)
2
26 VAC BUS
X17A20(1) WHT
⑫
9MP2
ROLL/YAW
RATE GYRO
9MP2J1
9MP2P1
EXCITATION
HI
LO
1
2
C2J22(1)
C73A22N(1)
9MP2J2
9MP2P2
EXCITATION
HI
LO
1
2
C2G22(1)
C74A22N(1)

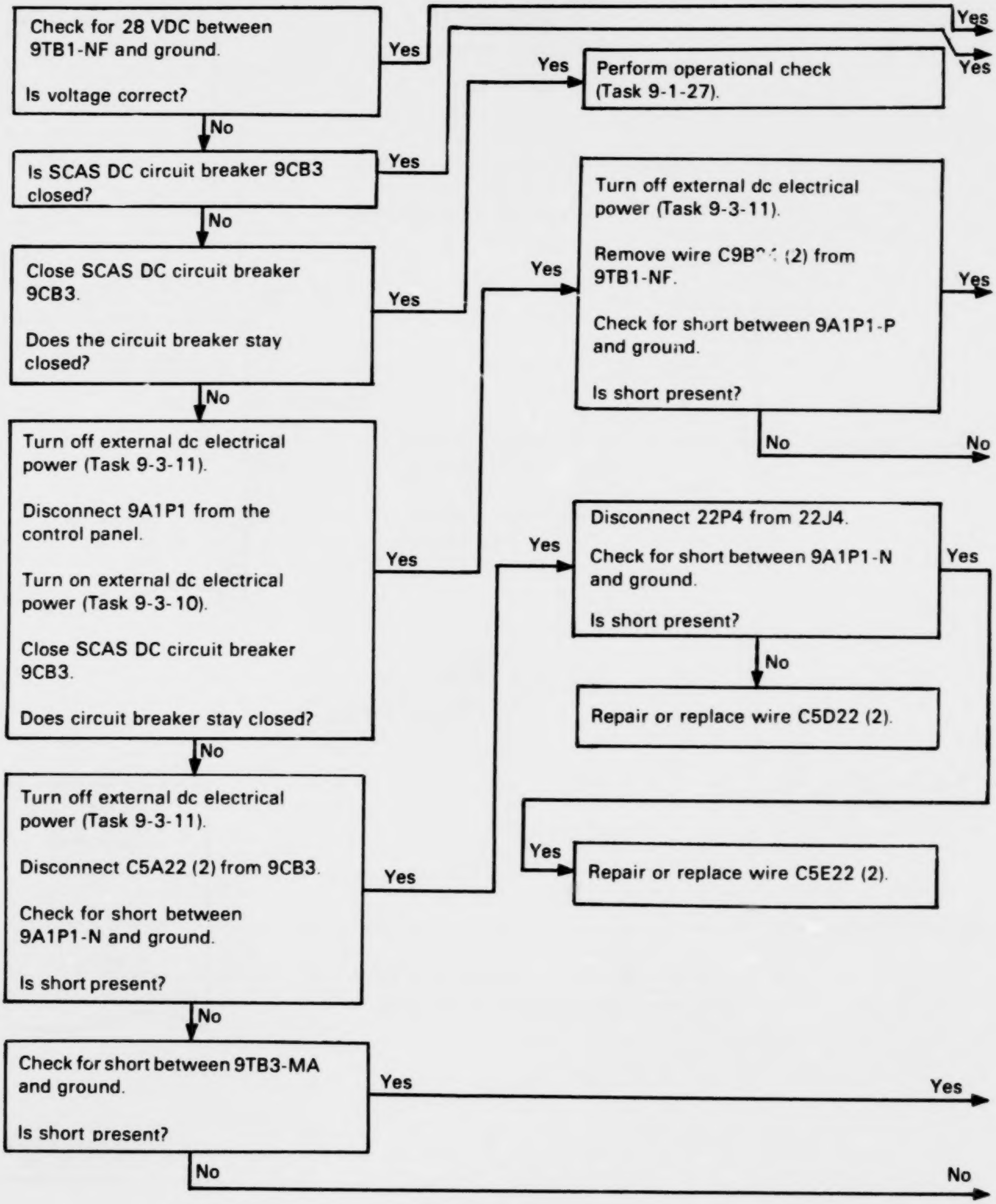
406475-250-2
406-475-602
406-475-606A

225. ERROR CODE 0010 WORD 2 26 VAC FAILURE (CONT)


WINDSHIELD POST DISCONNECT
22P3
22J3
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
⑨
C3B22(1)
C2B22(1)
C96A22(1)
8
7
6
5
C3A22(1)
C2A22(1)
C96B22(1)
D
C
B
SCAS
3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P5
3431A2J5
⑩
C97C22(1)
C97C22(1)
C72A22N(1)
X25A22N(1)
X24A22(1)
12
13
88
87
HI
LO
26 VAC
AC BUS VOLTAGE LO
AC BUS VOLTAGE HI
3CB3
26 VAC PWR
1
115 VAC BUS
⑪
C96A22(1)
3T1
115/26 VAC TRANSFORMER
X16A22(1)
HV
LV
GND
⑫
X17A20(1) WHT
X17A20(1) WHT
X17A20(1) BLU
X18A22N(1)
P
P

406475-250-3
406-475-602
406-475-606A

226. PITCH/ROLL AND YAW WILL NOT ENGAGE



Check for 28 VDC between 9TB1-NF and ground.

Is voltage correct?

Is SCAS DC circuit breaker 9CB3 closed?

Close SCAS DC circuit breaker 9CB3.

Does the circuit breaker stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1 from the control panel.

Turn on external dc electrical power (Task 9-3-10).

Close SCAS DC circuit breaker 9CB3.

Does circuit breaker stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect C5A22 (2) from 9CB3.

Check for short between 9A1P1-N and ground.

Is short present?

Check for short between 9TB3-MA and ground.

Is short present?

Perform operational check (Task 9-1-27).

Turn off external dc electrical power (Task 9-3-11).

Remove wire C9B[illegible] (2) from 9TB1-NF.

Check for short between 9A1P1-P and ground.

Is short present?

Disconnect 22P4 from 22J4.

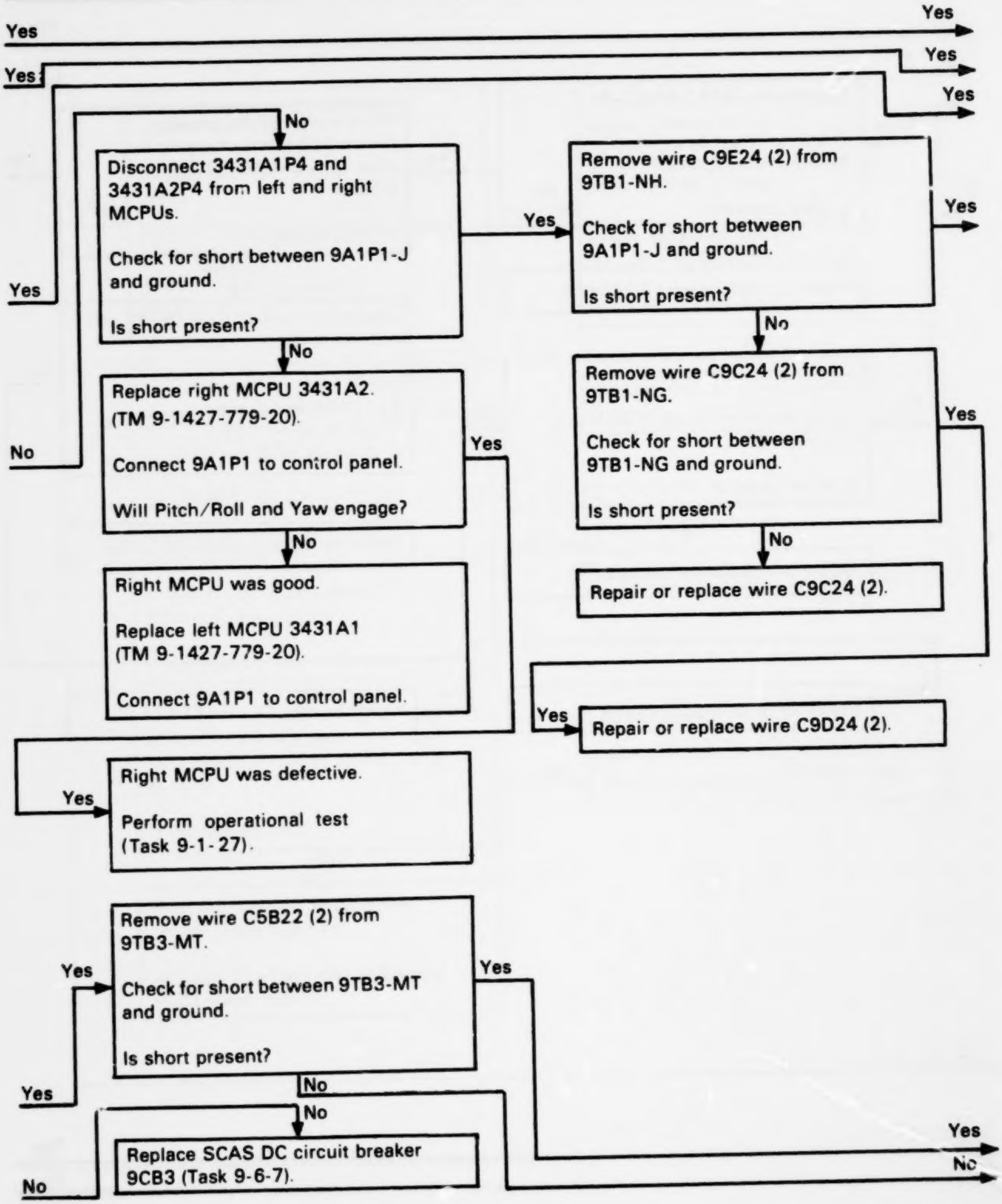
Check for short between 9A1P1-N and ground.

Is short present?

Repair or replace wire C5D22 (2).

Repair or replace wire C5E22 (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Disconnect 3431A1P4 and 3431A2P4 from left and right MCPUs.

Check for short between 9A1P1-J and ground.

Is short present?

Replace right MCPU 3431A2. (TM 9-1427-779-20).

Connect 9A1P1 to control panel.

Will Pitch/Roll and Yaw engage?

Right MCPU was good.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

Connect 9A1P1 to control panel.

Right MCPU was defective.

Perform operational test (Task 9-1-27).

Remove wire C5B22 (2) from 9TB3-MT.

Check for short between 9TB3-MT and ground.

Is short present?

Replace SCAS DC circuit breaker 9CB3 (Task 9-6-7).

Remove wire C9E24 (2) from 9TB1-NH.

Check for short between 9A1P1-J and ground.

Is short present?

Remove wire C9C24 (2) from 9TB1-NG.

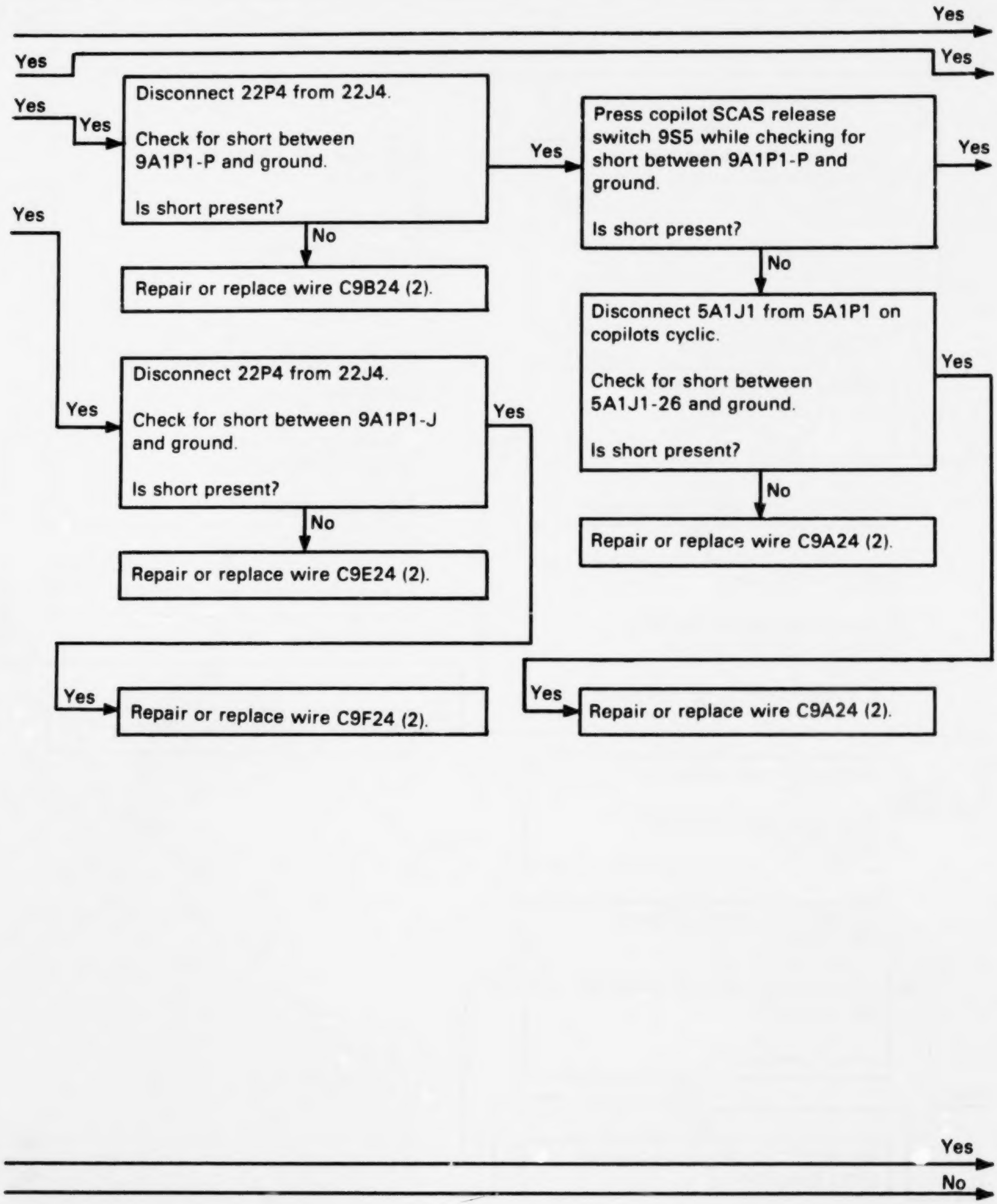
Check for short between 9TB1-NG and ground.

Is short present?

Repair or replace wire C9C24 (2).

Repair or replace wire C9D24 (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Disconnect 22P4 from 22J4.

Check for short between 9A1P1-P and ground.

Is short present?

Repair or replace wire C9B24 (2).

Press copilot SCAS release switch 9S5 while checking for short between 9A1P1-P and ground.

Is short present?

Disconnect 5A1J1 from 5A1P1 on copilots cyclic.

Check for short between 5A1J1-26 and ground.

Is short present?

Repair or replace wire C9A24 (2).

Disconnect 22P4 from 22J4.

Check for short between 9A1P1-J and ground.

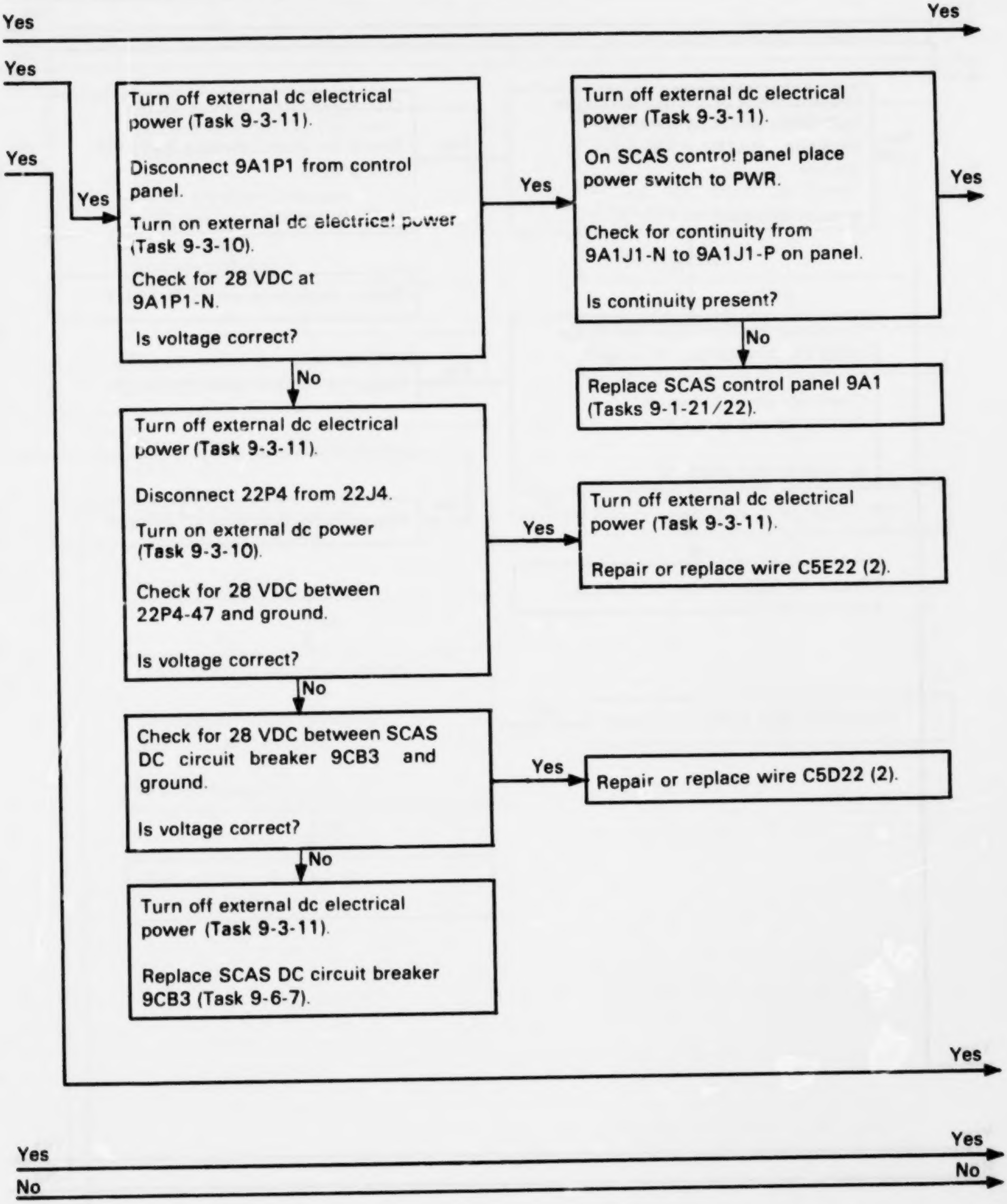
Is short present?

Repair or replace wire C9E24 (2).

Repair or replace wire C9F24 (2).

Repair or replace wire C9A24 (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1 from control panel.

Turn on external dc electrical power (Task 9-3-10).

Check for 28 VDC at 9A1P1-N.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

On SCAS control panel place power switch to PWR.

Check for continuity from 9A1J1-N to 9A1J1-P on panel.

Is continuity present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 22P4 from 22J4.

Turn on external dc power (Task 9-3-10).

Check for 28 VDC between 22P4-47 and ground.

Is voltage correct?

Turn off external dc electrical power (Task 9-3-11).

Repair or replace wire C5E22 (2).

Check for 28 VDC between SCAS DC circuit breaker 9CB3 and ground.

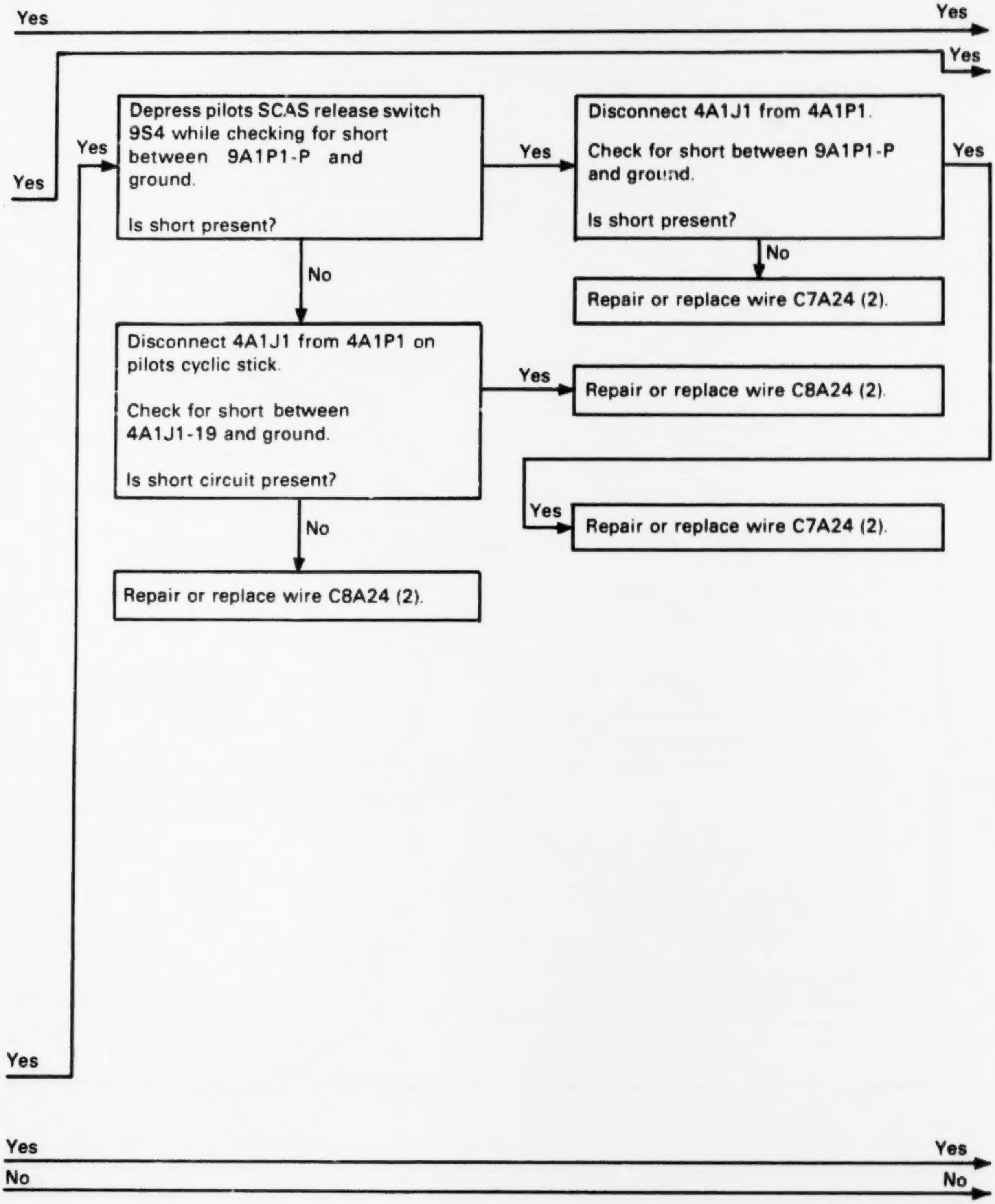
Is voltage correct?

Repair or replace wire C5D22 (2).

Turn off external dc electrical power (Task 9-3-11).

Replace SCAS DC circuit breaker 9CB3 (Task 9-6-7).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Depress pilots SCAS release switch 9S4 while checking for short between 9A1P1-P and ground.

Is short present?

Disconnect 4A1J1 from 4A1P1.

Check for short between 9A1P1-P and ground.

Is short present?

Repair or replace wire C7A24 (2).

Disconnect 4A1J1 from 4A1P1 on pilots cyclic stick.

Check for short between 4A1J1-19 and ground.

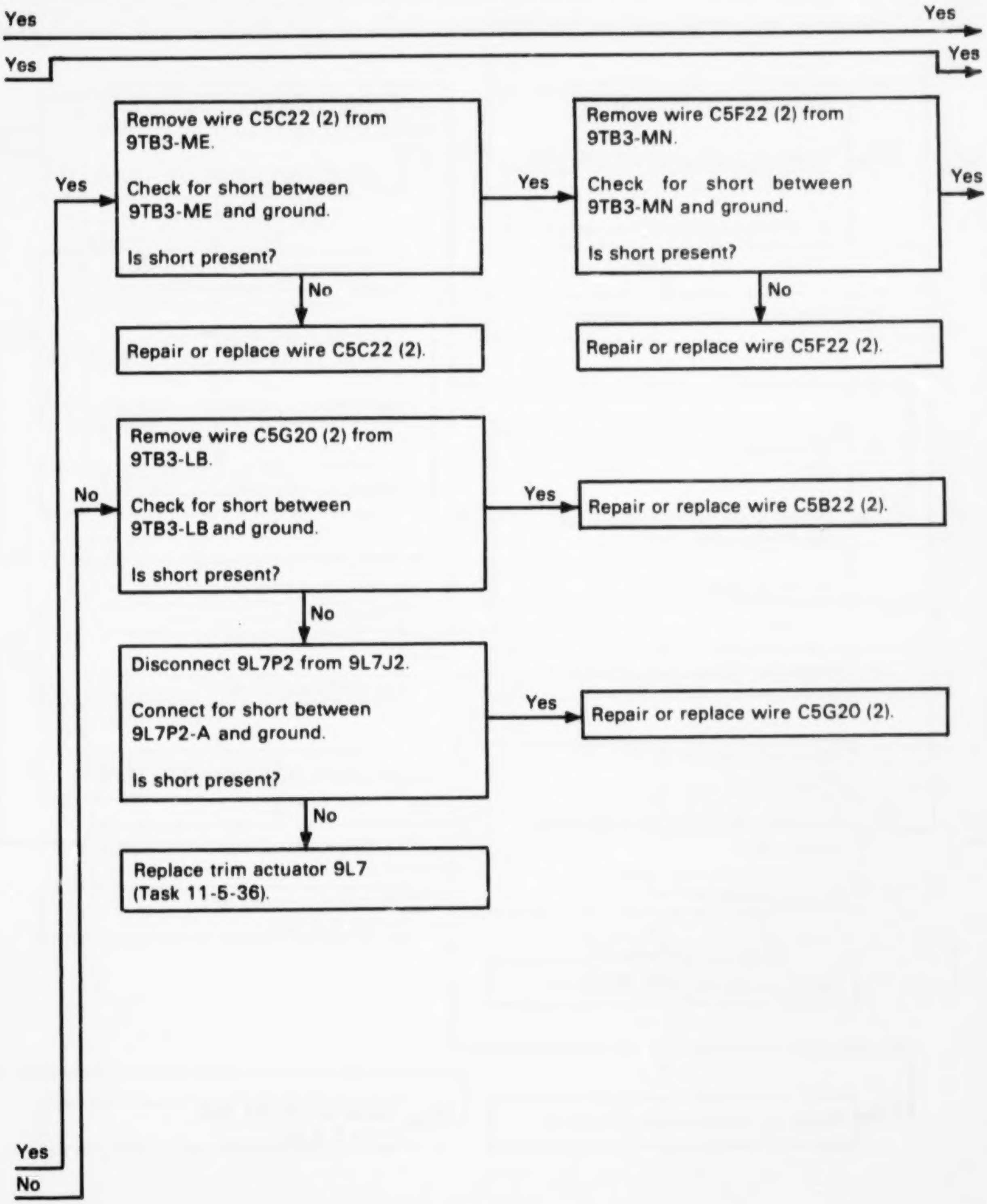
Is short circuit present?

Repair or replace wire C8A24 (2).

Repair or replace wire C7A24 (2).

Repair or replace wire C8A24 (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Remove wire C5C22 (2) from 9TB3-ME.

Check for short between 9TB3-ME and ground.

Is short present?

Repair or replace wire C5C22 (2).

Remove wire C5F22 (2) from 9TB3-MN.

Check for short between 9TB3-MN and ground.

Is short present?

Repair or replace wire C5F22 (2).

Remove wire C5G20 (2) from 9TB3-LB.

Check for short between 9TB3-LB and ground.

Is short present?

Repair or replace wire C5B22 (2).

Disconnect 9L7P2 from 9L7J2.

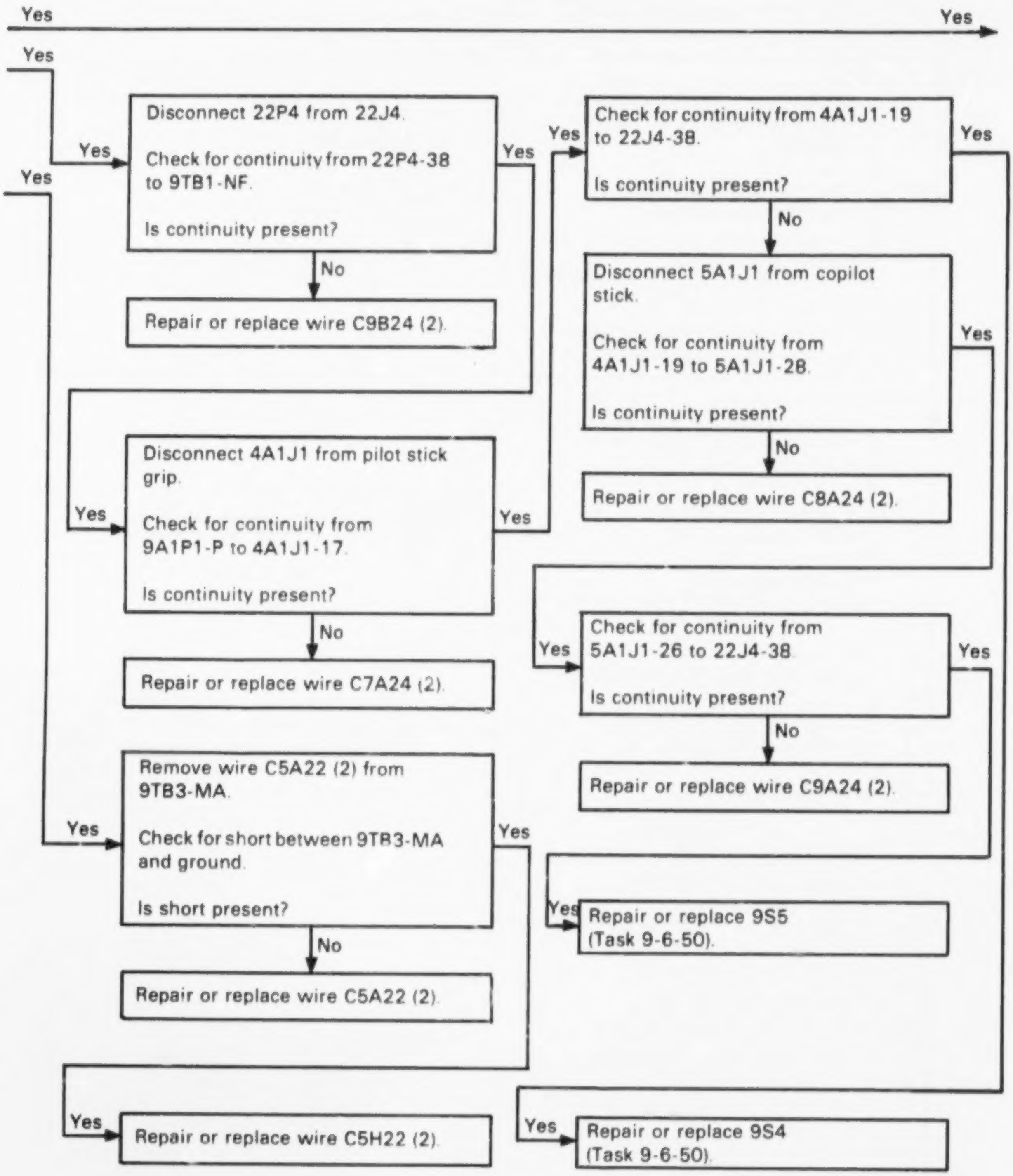
Connect for short between 9L7P2-A and ground.

Is short present?

Repair or replace wire C5G20 (2).

Replace trim actuator 9L7 (Task 11-5-36).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Disconnect 22P4 from 22J4.

Check for continuity from 22P4-38 to 9TB1-NF.

Is continuity present?

Repair or replace wire C9B24 (2).

Disconnect 4A1J1 from pilot stick grip.

Check for continuity from 9A1P1-P to 4A1J1-17.

Is continuity present?

Repair or replace wire C7A24 (2).

Remove wire C5A22 (2) from 9TB3-MA.

Check for short between 9TB3-MA and ground.

Is short present?

Repair or replace wire C5A22 (2).

Repair or replace wire C5H22 (2).

Check for continuity from 4A1J1-19 to 22J4-38.

Is continuity present?

Disconnect 5A1J1 from copilot stick.

Check for continuity from 4A1J1-19 to 5A1J1-28.

Is continuity present?

Repair or replace wire C8A24 (2).

Check for continuity from 5A1J1-26 to 22J4-38.

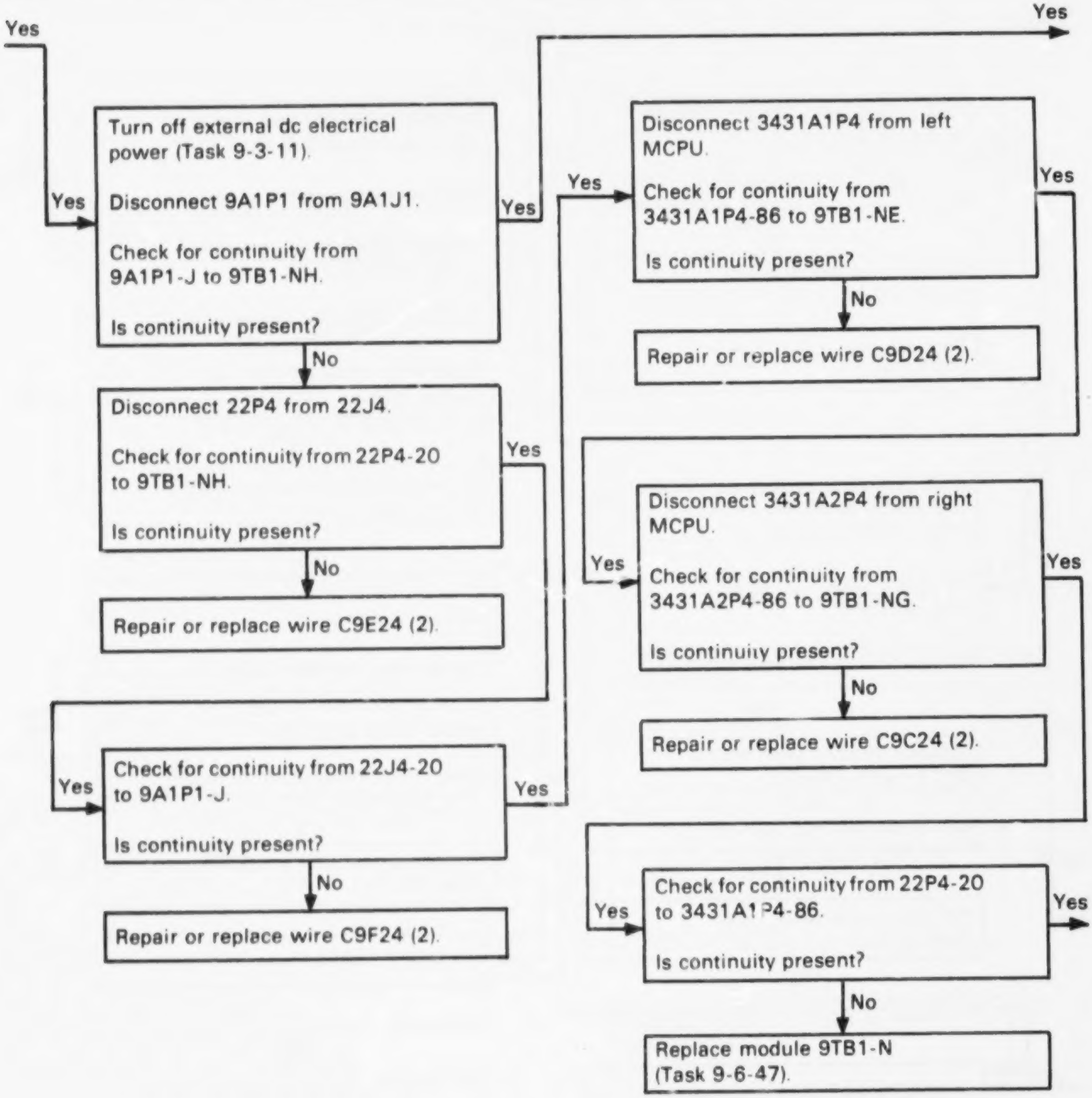
Is continuity present?

Repair or replace wire C9A24 (2).

Repair or replace 9S5 (Task 9-6-50).

Repair or replace 9S4 (Task 9-6-50).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1 from 9A1J1.

Check for continuity from 9A1P1-J to 9TB1-NH.

Is continuity present?

Disconnect 22P4 from 22J4.

Check for continuity from 22P4-20 to 9TB1-NH.

Is continuity present?

Repair or replace wire C9E24 (2).

Check for continuity from 22J4-20 to 9A1P1-J.

Is continuity present?

Repair or replace wire C9F24 (2).

Disconnect 3431A1P4 from left MCPU.

Check for continuity from 3431A1P4-86 to 9TB1-NE.

Is continuity present?

Repair or replace wire C9D24 (2).

Disconnect 3431A2P4 from right MCPU.

Check for continuity from 3431A2P4-86 to 9TB1-NG.

Is continuity present?

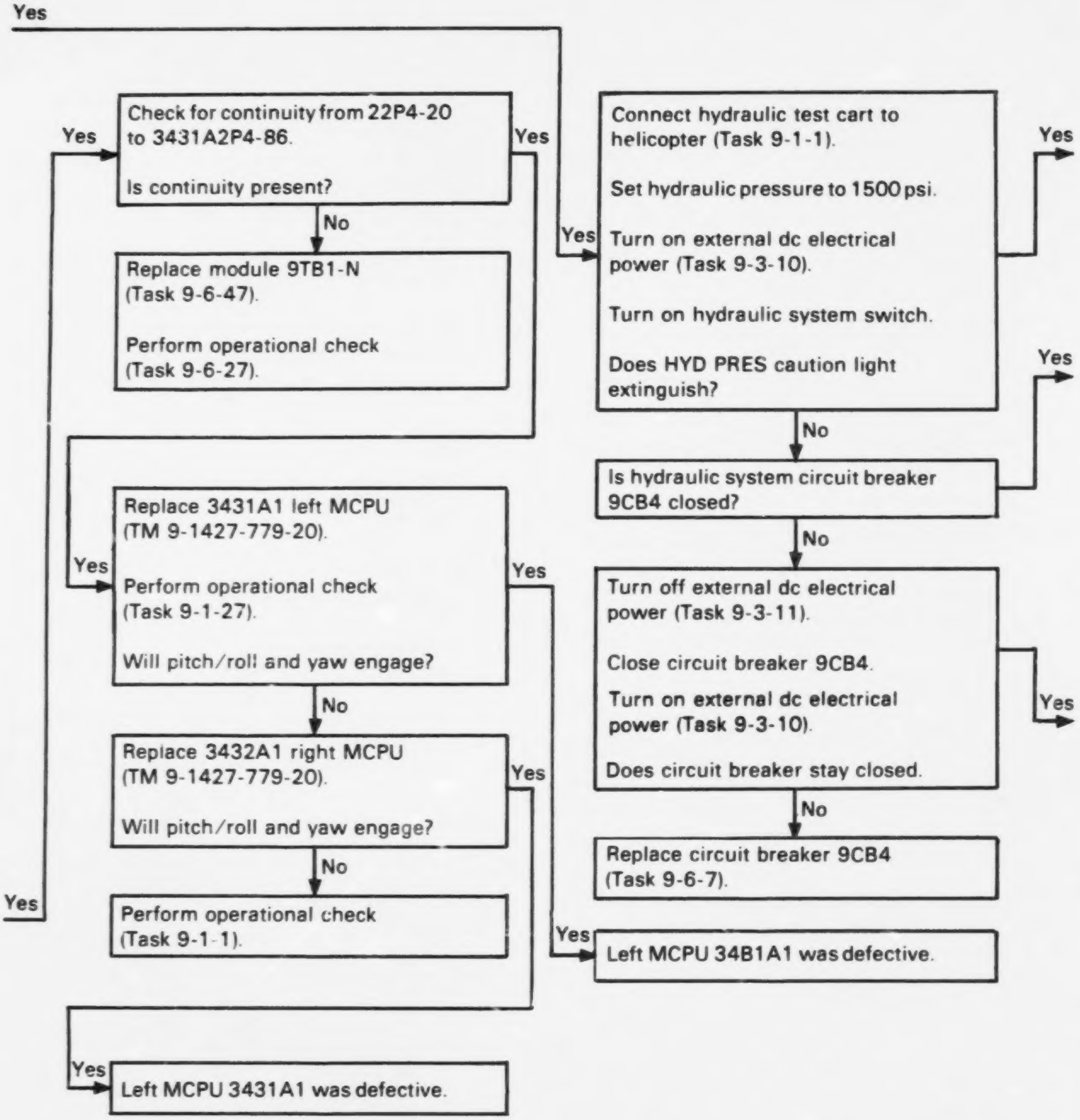
Repair or replace wire C9C24 (2).

Check for continuity from 22P4-20 to 3431A1P4-86.

Is continuity present?

Replace module 9TB1-N (Task 9-6-47).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Check for continuity from 22P4-20 to 3431A2P4-86.

Is continuity present?

Replace module 9TB1-N (Task 9-6-47).

Perform operational check (Task 9-6-27).

Replace 3431A1 left MCPU (TM 9-1427-779-20).

Perform operational check (Task 9-1-27).

Will pitch/roll and yaw engage?

Replace 3432A1 right MCPU (TM 9-1427-779-20).

Will pitch/roll and yaw engage?

Perform operational check (Task 9-1-1).

Left MCPU 3431A1 was defective.

Connect hydraulic test cart to helicopter (Task 9-1-1).

Set hydraulic pressure to 1500 psi.

Turn on external dc electrical power (Task 9-3-10).

Turn on hydraulic system switch.

Does HYD PRES caution light extinguish?

Is hydraulic system circuit breaker 9CB4 closed?

Turn off external dc electrical power (Task 9-3-11).

Close circuit breaker 9CB4.

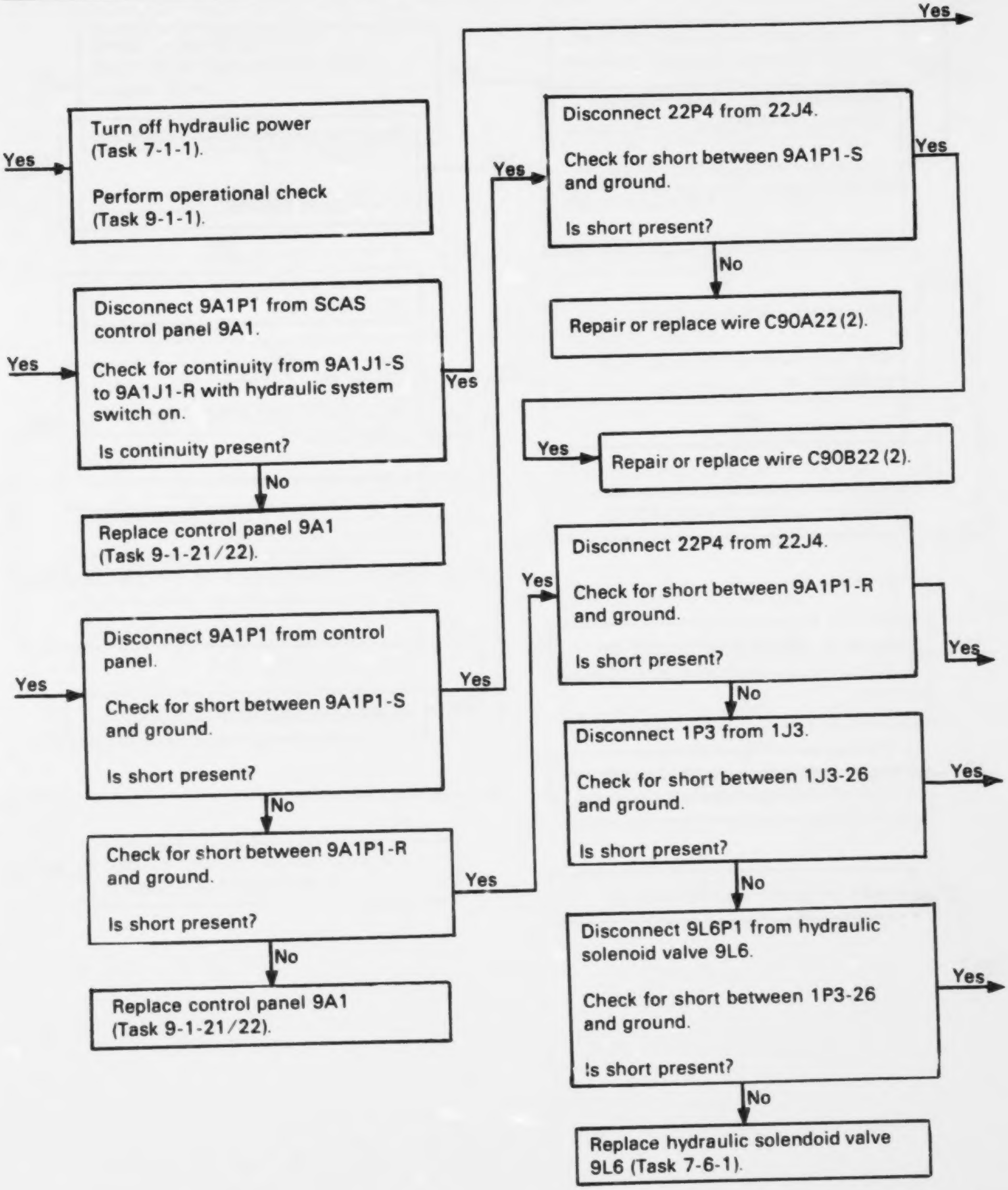
Turn on external dc electrical power (Task 9-3-10).

Does circuit breaker stay closed.

Replace circuit breaker 9CB4 (Task 9-6-7).

Left MCPU 34B1A1 was defective.

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Turn off hydraulic power (Task 7-1-1).

Perform operational check (Task 9-1-1).

Disconnect 9A1P1 from SCAS control panel 9A1.

Check for continuity from 9A1J1-S to 9A1J1-R with hydraulic system switch on.

Is continuity present?

Replace control panel 9A1 (Task 9-1-21/22).

Disconnect 9A1P1 from control panel.

Check for short between 9A1P1-S and ground.

Is short present?

Check for short between 9A1P1-R and ground.

Is short present?

Replace control panel 9A1 (Task 9-1-21/22).

Disconnect 22P4 from 22J4.

Check for short between 9A1P1-S and ground.

Is short present?

Repair or replace wire C90A22 (2).

Repair or replace wire C90B22 (2).

Disconnect 22P4 from 22J4.

Check for short between 9A1P1-R and ground.

Is short present?

Disconnect 1P3 from 1J3.

Check for short between 1J3-26 and ground.

Is short present?

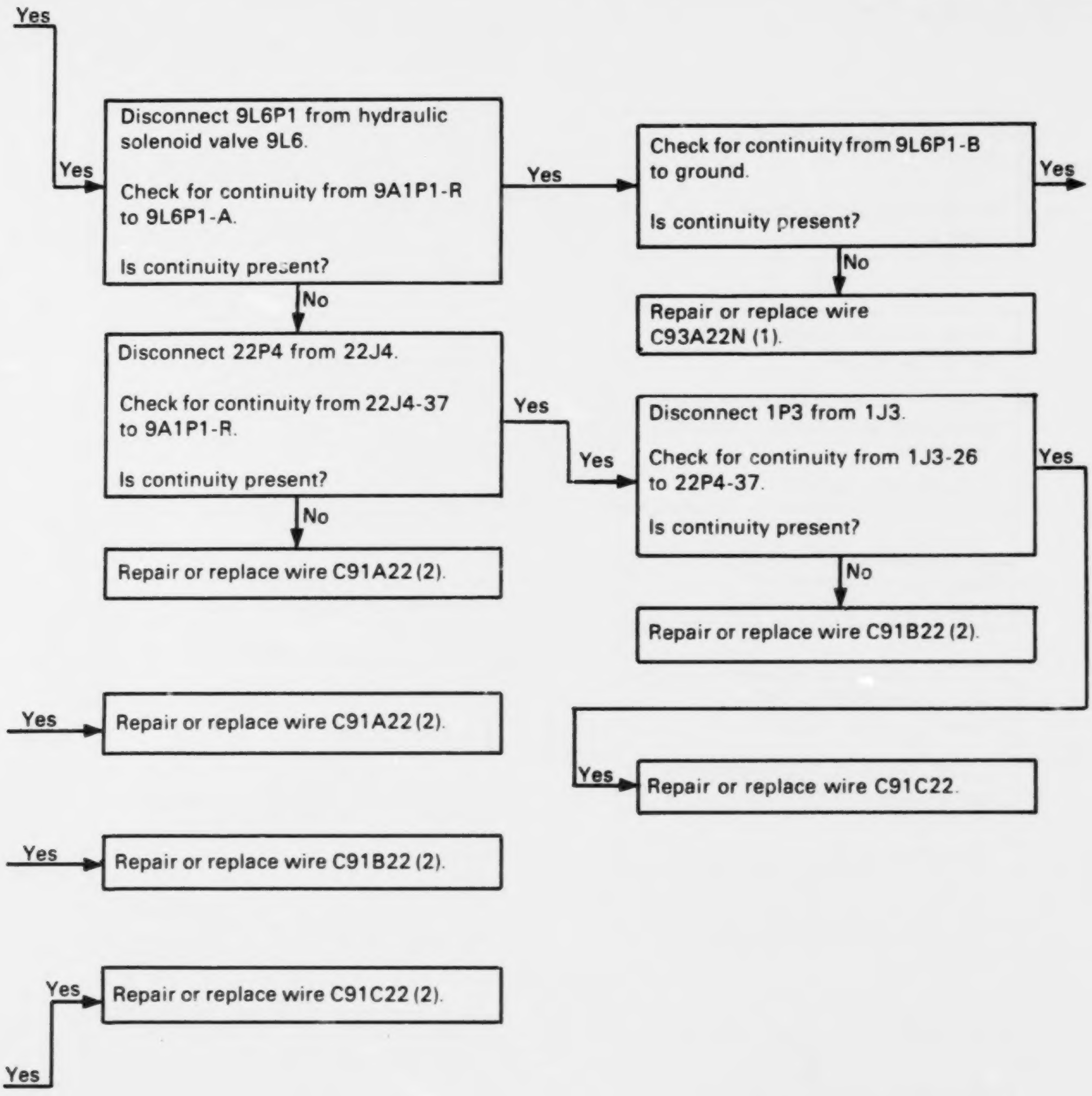
Disconnect 9L6P1 from hydraulic solenoid valve 9L6.

Check for short between 1P3-26 and ground.

Is short present?

Replace hydraulic solendoid valve 9L6 (Task 7-6-1).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Disconnect 9L6P1 from hydraulic solenoid valve 9L6.

Check for continuity from 9A1P1-R to 9L6P1-A.

Is continuity present?

Check for continuity from 9L6P1-B to ground.

Is continuity present?

Repair or replace wire C93A22N (1).

Disconnect 22P4 from 22J4.

Check for continuity from 22J4-37 to 9A1P1-R.

Is continuity present?

Disconnect 1P3 from 1J3.

Check for continuity from 1J3-26 to 22P4-37.

Is continuity present?

Repair or replace wire C91A22 (2).

Repair or replace wire C91B22 (2).

Repair or replace wire C91A22 (2).

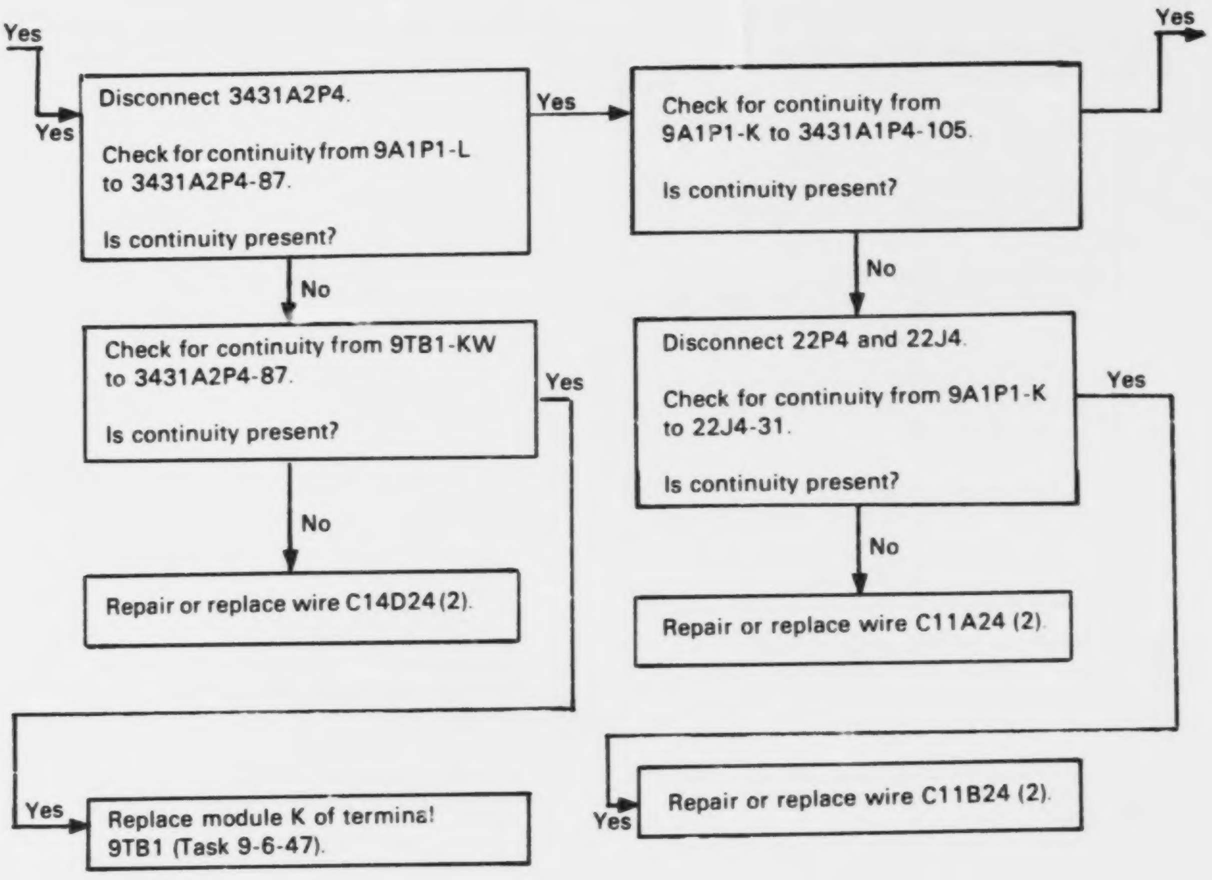
Repair or replace wire C91C22.

Repair or replace wire C91B22 (2).

Repair or replace wire C91C22 (2).

---

228. PITCH AND ROLL (ONLY) WILL NOT ENGAGE (CONT)



Disconnect 3431A2P4.

Check for continuity from 9A1P1-L to 3431A2P4-87.

Is continuity present?

Check for continuity from 9A1P1-K to 3431A1P4-105.

Is continuity present?

Check for continuity from 9TB1-KW to 3431A2P4-87.

Is continuity present?

Disconnect 22P4 and 22J4.

Check for continuity from 9A1P1-K to 22J4-31.

Is continuity present?

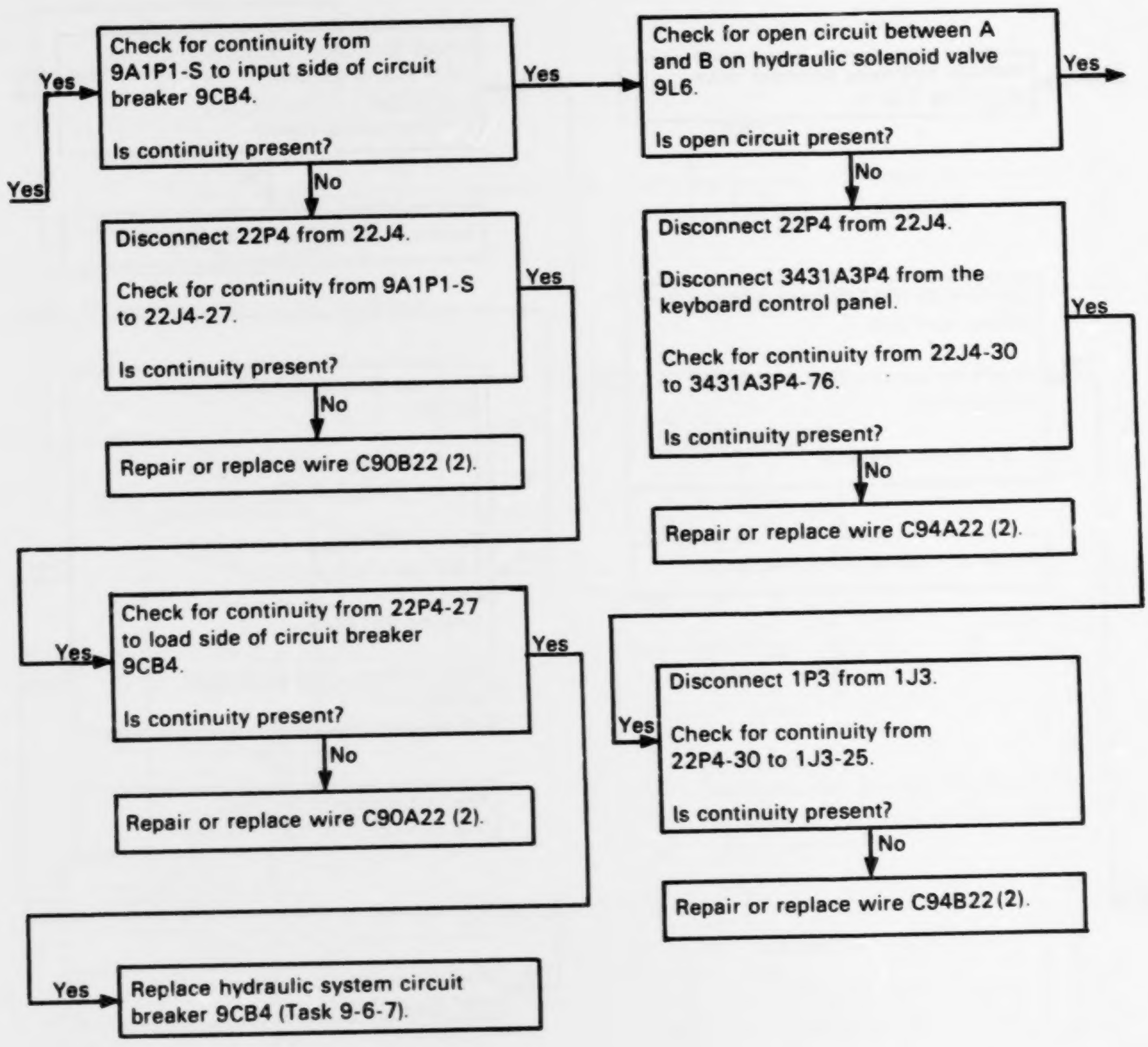
Repair or replace wire C14D24 (2).

Repair or replace wire C11A24 (2).

Replace module K of terminal 9TB1 (Task 9-6-47).

Repair or replace wire C11B24 (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Check for continuity from 9A1P1-S to input side of circuit breaker 9CB4.

Is continuity present?

Disconnect 22P4 from 22J4.

Check for continuity from 9A1P1-S to 22J4-27.

Is continuity present?

Repair or replace wire C90B22 (2).

Check for continuity from 22P4-27 to load side of circuit breaker 9CB4.

Is continuity present?

Repair or replace wire C90A22 (2).

Replace hydraulic system circuit breaker 9CB4 (Task 9-6-7).

Check for open circuit between A and B on hydraulic solenoid valve 9L6.

Is open circuit present?

Disconnect 22P4 from 22J4.

Disconnect 3431A3P4 from the keyboard control panel.

Check for continuity from 22J4-30 to 3431A3P4-76.

Is continuity present?

Repair or replace wire C94A22 (2).

Disconnect 1P3 from 1J3.

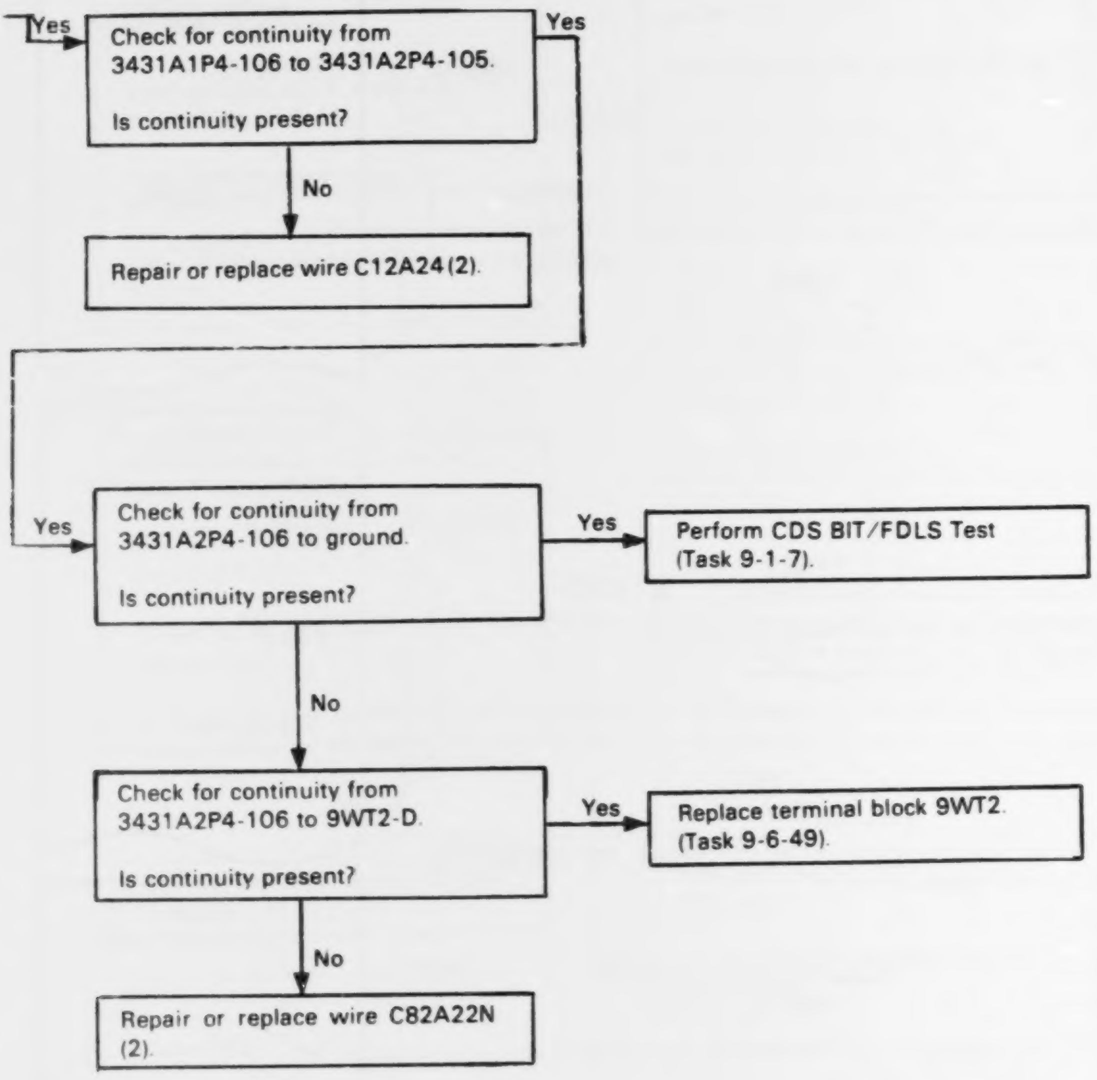
Check for continuity from 22P4-30 to 1J3-25.

Is continuity present?

Repair or replace wire C94B22 (2).

---

228. PITCH AND ROLL (ONLY) WILL NOT ENGAGE (CONT)



Check for continuity from 3431A1P4-106 to 3431A2P4-105.

Is continuity present?

Repair or replace wire C12A24 (2).

Check for continuity from 3431A2P4-106 to ground.

Is continuity present?

Perform CDS BIT/FDLS Test (Task 9-1-7).

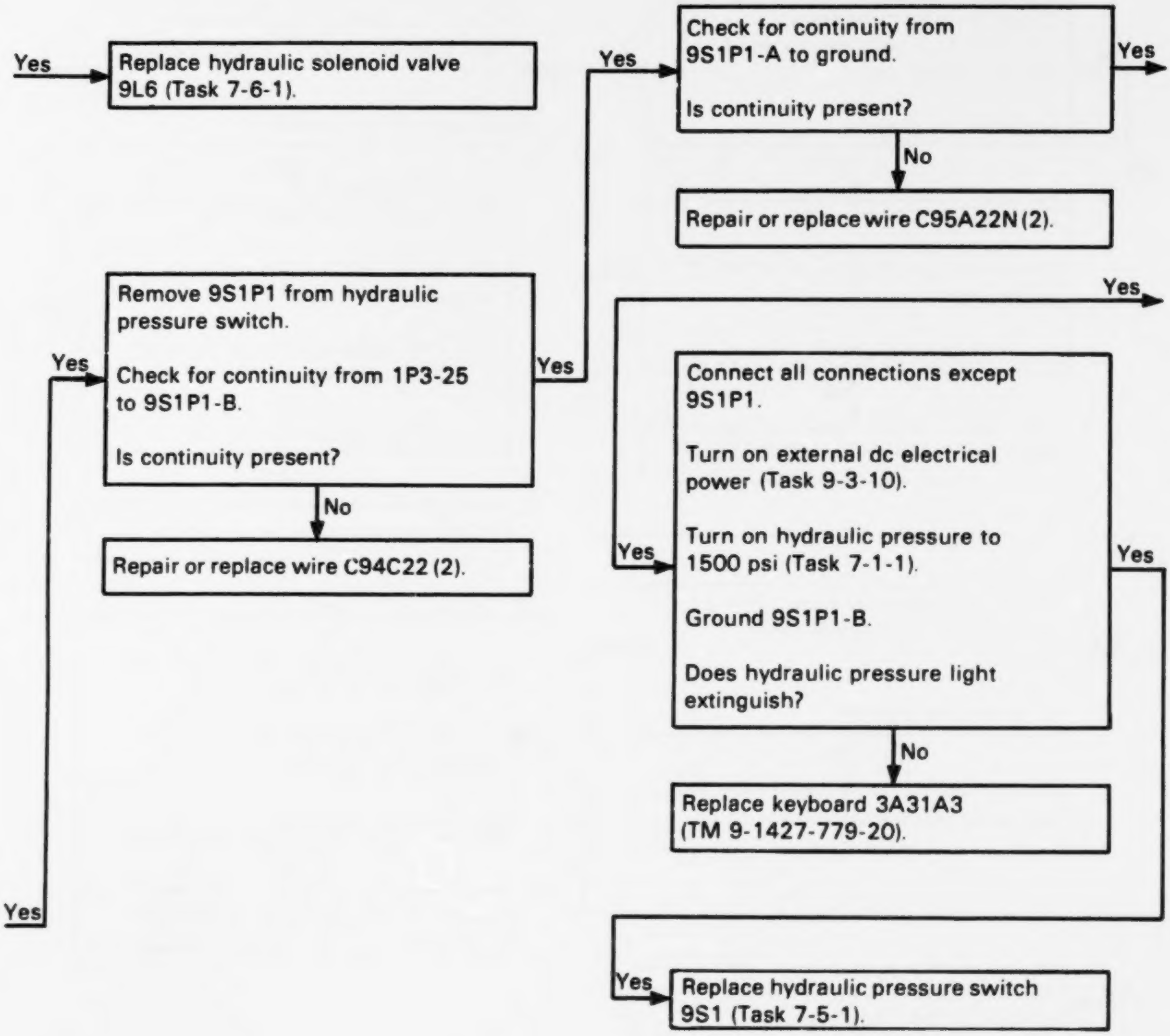
Check for continuity from 3431A2P4-106 to 9WT2-D.

Is continuity present?

Replace terminal block 9WT2. (Task 9-6-49).

Repair or replace wire C82A22N (2).

226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)



Replace hydraulic solenoid valve 9L6 (Task 7-6-1).

Check for continuity from 9S1P1-A to ground.

Is continuity present?

Repair or replace wire C95A22N (2).

Remove 9S1P1 from hydraulic pressure switch.

Check for continuity from 1P3-25 to 9S1P1-B.

Is continuity present?

Repair or replace wire C94C22 (2).

Connect all connections except 9S1P1.

Turn on external dc electrical power (Task 9-3-10).

Turn on hydraulic pressure to 1500 psi (Task 7-1-1).

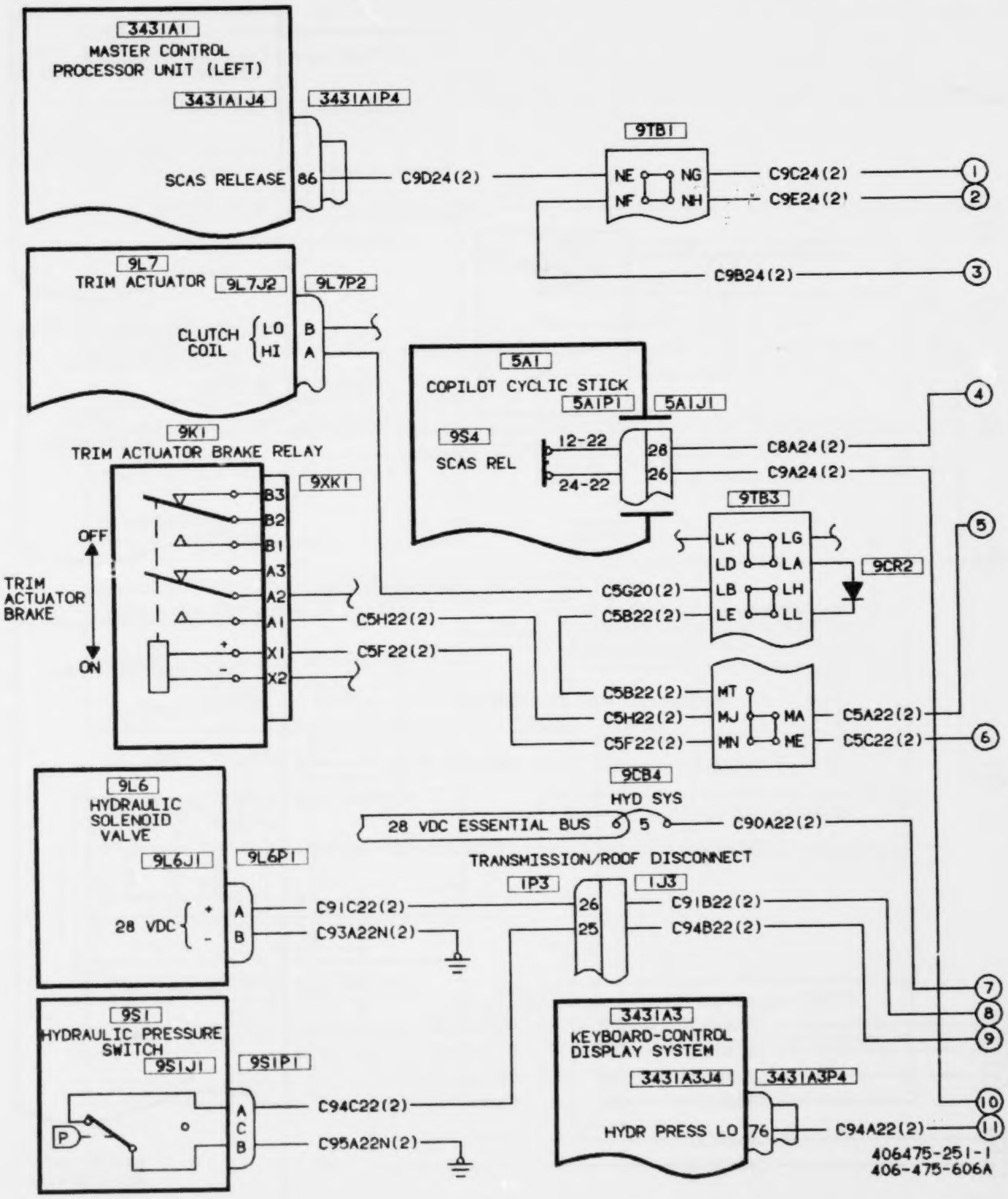
Ground 9S1P1-B.

Does hydraulic pressure light extinguish?

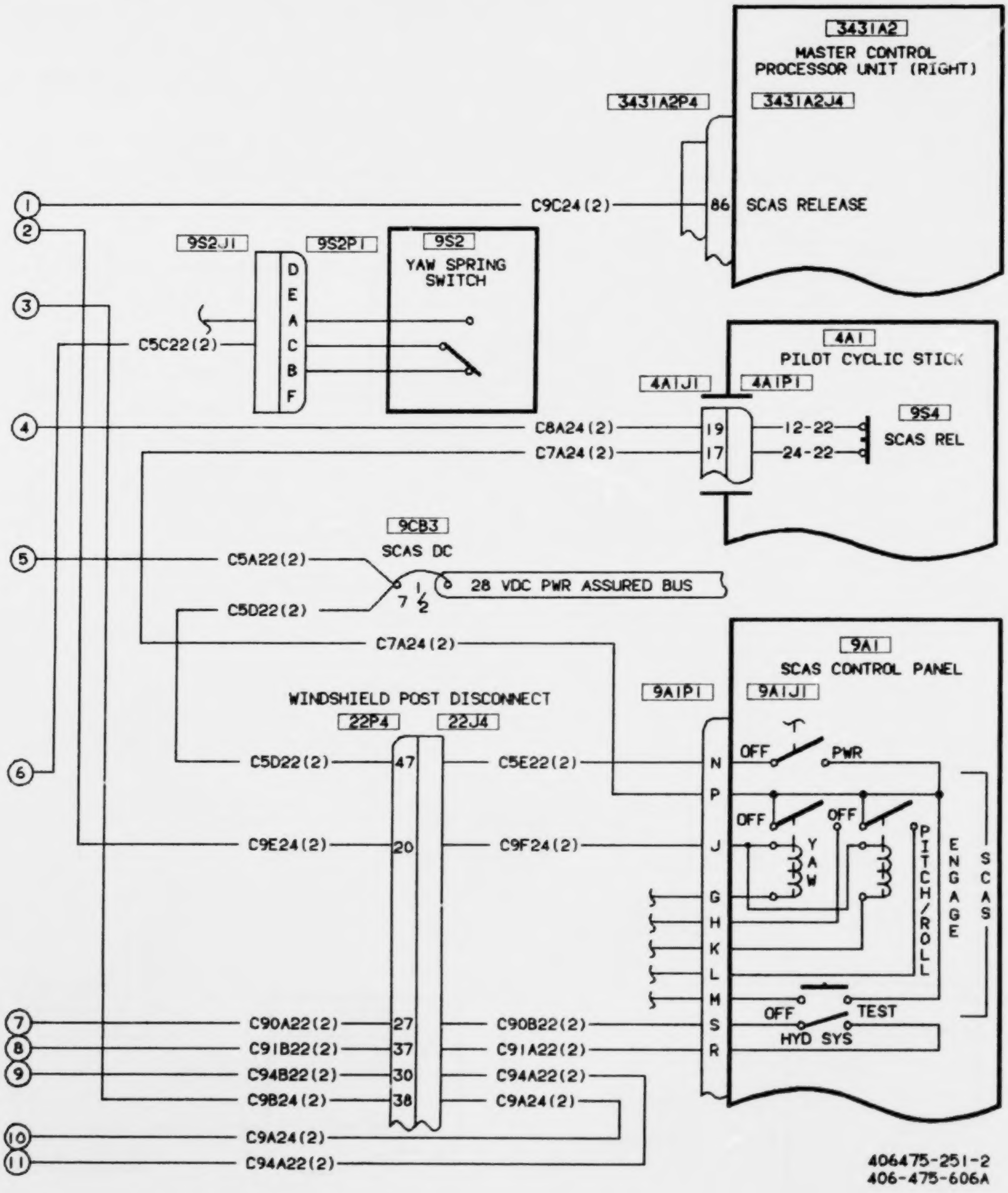
Replace keyboard 3A31A3 (TM 9-1427-779-20).

Replace hydraulic pressure switch 9S1 (Task 7-5-1).

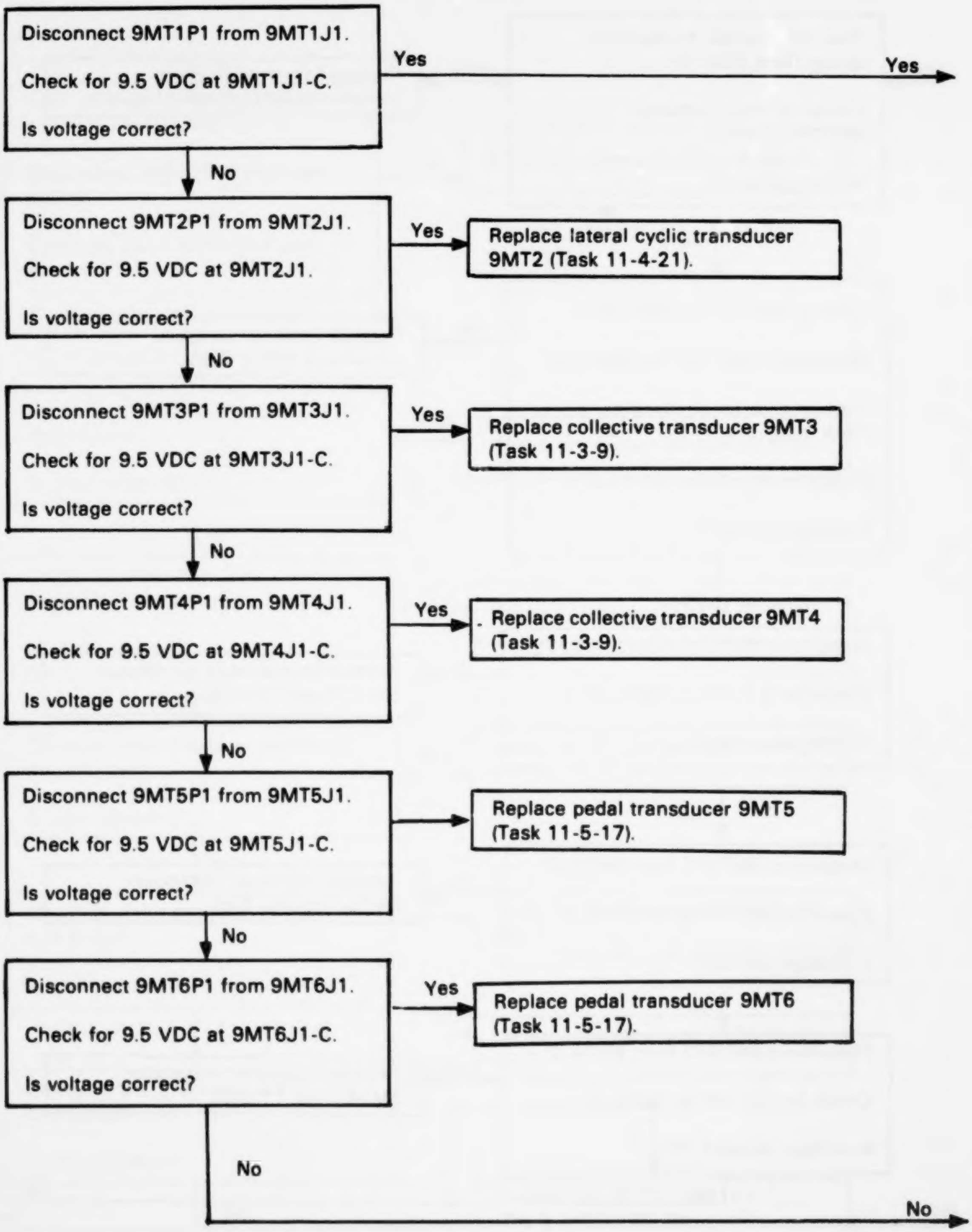
226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)


3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1J4
3431A1P4
SCAS RELEASE
86
C9D24(2)
9TB1
NE
NG
NF
NH
C9C24(2)
C9E24(2)
C9B24(2)
1
2
3
9L7
TRIM ACTUATOR
9L7J2
9L7P2
CLUTCH COIL
LO
HI
B
A
5A1
COPILOT CYCLIC STICK
5A1P1
5A1J1
9S4
SCAS REL
12-22
24-22
28
26
C8A24(2)
C9A24(2)
4
9K1
TRIM ACTUATOR BRAKE RELAY
9XK1
B3
B2
B1
A3
A2
A1
X1
X2
OFF
ON
TRIM ACTUATOR BRAKE
+
-
C5H22(2)
C5F22(2)
9TB3
LK
LG
LD
LA
LB
LH
LE
LL
9CR2
C5G20(2)
C5B22(2)
5
MT
MJ
MA
MN
ME
C5B22(2)
C5H22(2)
C5F22(2)
C5A22(2)
C5C22(2)
6
9CB4
HYD SYS
28 VDC ESSENTIAL BUS
5
C90A22(2)
9L6
HYDRAULIC SOLENOID VALVE
9L6J1
9L6P1
28 VDC
+
-
A
B
C91C22(2)
C93A22N(2)
TRANSMISSION/ROOF DISCONNECT
1P3
1J3
26
25
C91B22(2)
C94B22(2)
7
8
9
9S1
HYDRAULIC PRESSURE SWITCH
9S1J1
9S1P1
P
A
C
B
C94C22(2)
C95A22N(2)
3431A3
KEYBOARD-CONTROL DISPLAY SYSTEM
3431A3J4
3431A3P4
HYDR PRESS LO
76
C94A22(2)
10
11
406475-251-1
406-475-606A

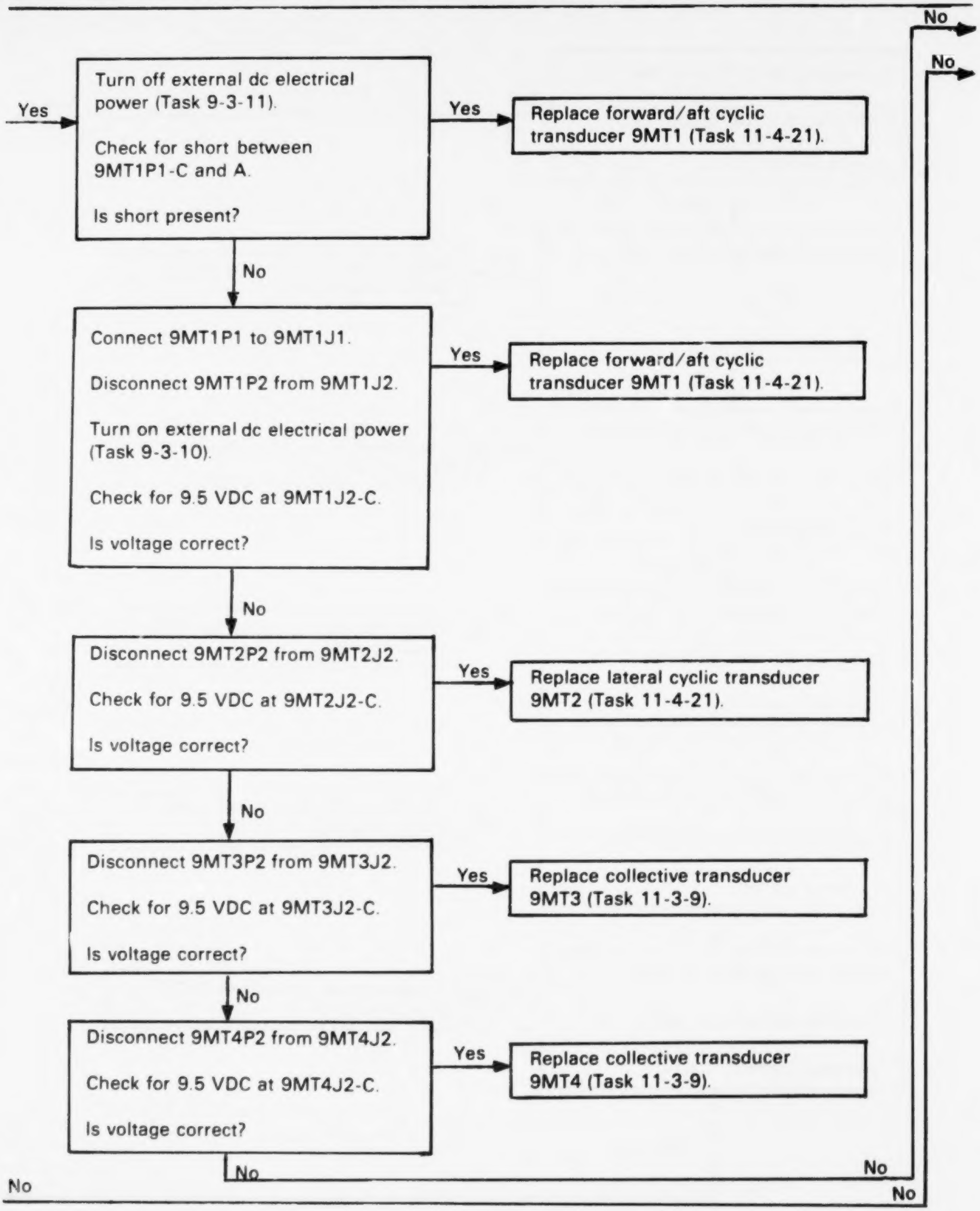
226. PITCH/ROLL AND YAW WILL NOT ENGAGE (CONT)


3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P4
3431A2J4
86
SCAS RELEASE
C9C24(2)
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
9S2J1
9S2P1
9S2
YAW SPRING SWITCH
D
E
A
C
B
F
C5C22(2)
4A1
PILOT CYCLIC STICK
4A1J1
4A1P1
9S4
SCAS REL
19
17
C8A24(2)
C7A24(2)
12-22
24-22
9CB3
SCAS DC
C5A22(2)
C5D22(2)
1
7
2
28 VDC PWR ASSURED BUS
C7A24(2)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
WINDSHIELD POST DISCONNECT
22P4
22J4
C5D22(2)
47
C5E22(2)
C9E24(2)
20
C9F24(2)
N
P
J
G
H
K
L
M
S
R
OFF
PWR
OFF
OFF
YAW
PITCH/ROLL
ENGAGE
SCAS
OFF
TEST
HYD SYS
C90A22(2)
27
C90B22(2)
C91B22(2)
37
C91A22(2)
C94B22(2)
30
C94A22(2)
C9B24(2)
38
C9A24(2)
C9A24(2)
C94A22(2)
406475-251-2
406-475-606A

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE


Disconnect 9MT1P1 from 9MT1J1. Check for 9.5 VDC at 9MT1J1-C. Is voltage correct?
Yes
Yes
No
Disconnect 9MT2P1 from 9MT2J1. Check for 9.5 VDC at 9MT2J1. Is voltage correct?
Yes
Replace lateral cyclic transducer 9MT2 (Task 11-4-21).
No
Disconnect 9MT3P1 from 9MT3J1. Check for 9.5 VDC at 9MT3J1-C. Is voltage correct?
Yes
Replace collective transducer 9MT3 (Task 11-3-9).
No
Disconnect 9MT4P1 from 9MT4J1. Check for 9.5 VDC at 9MT4J1-C. Is voltage correct?
Yes
Replace collective transducer 9MT4 (Task 11-3-9).
No
Disconnect 9MT5P1 from 9MT5J1. Check for 9.5 VDC at 9MT5J1-C. Is voltage correct?
Replace pedal transducer 9MT5 (Task 11-5-17).
No
Disconnect 9MT6P1 from 9MT6J1. Check for 9.5 VDC at 9MT6J1-C. Is voltage correct?
Yes
Replace pedal transducer 9MT6 (Task 11-5-17).
No
No

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for short between 9MT1P1-C and A.

Is short present?

Replace forward/aft cyclic transducer 9MT1 (Task 11-4-21).

Connect 9MT1P1 to 9MT1J1.

Disconnect 9MT1P2 from 9MT1J2.

Turn on external dc electrical power (Task 9-3-10).

Check for 9.5 VDC at 9MT1J2-C.

Is voltage correct?

Replace forward/aft cyclic transducer 9MT1 (Task 11-4-21).

Disconnect 9MT2P2 from 9MT2J2.

Check for 9.5 VDC at 9MT2J2-C.

Is voltage correct?

Replace lateral cyclic transducer 9MT2 (Task 11-4-21).

Disconnect 9MT3P2 from 9MT3J2.

Check for 9.5 VDC at 9MT3J2-C.

Is voltage correct?

Replace collective transducer 9MT3 (Task 11-3-9).

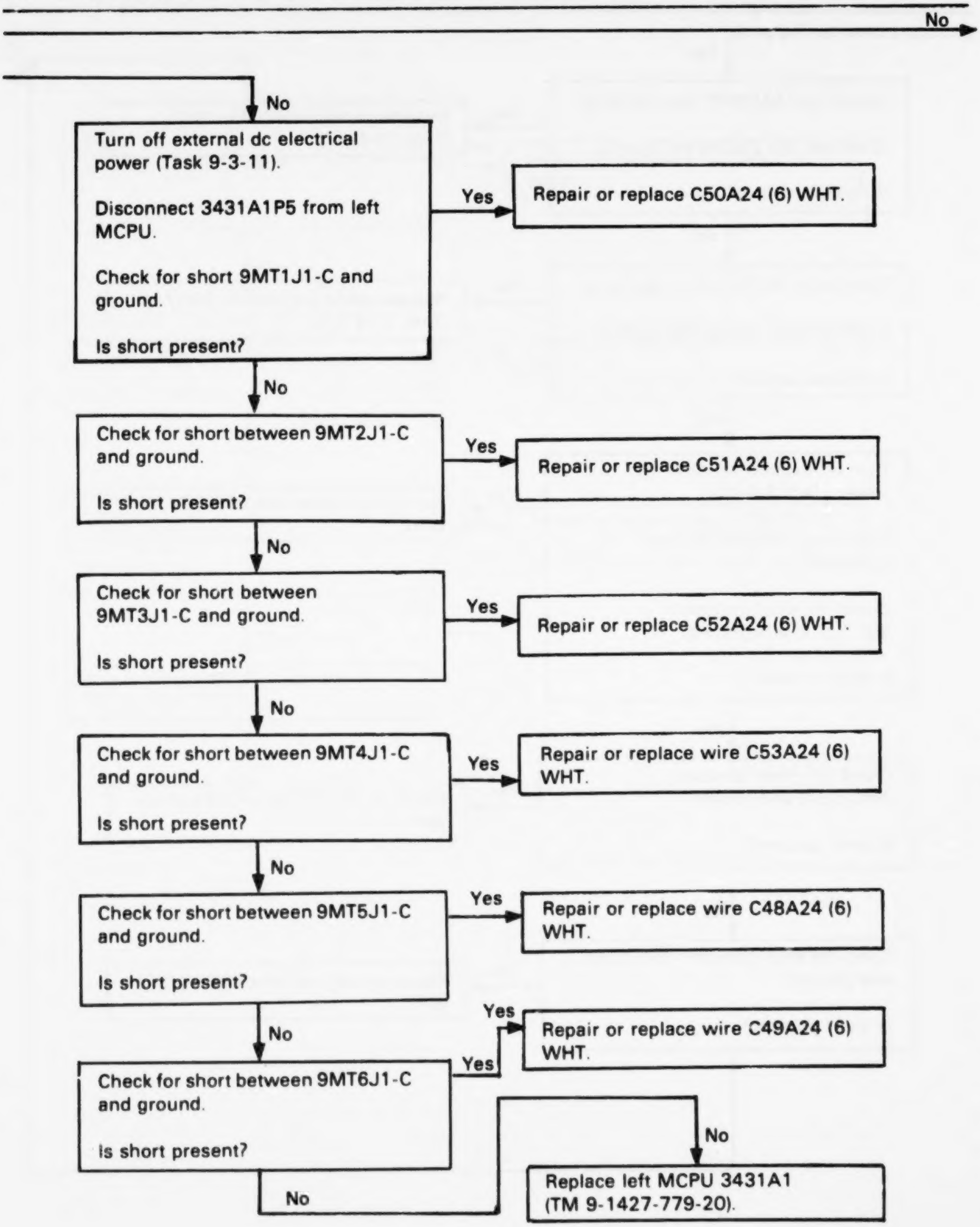
Disconnect 9MT4P2 from 9MT4J2.

Check for 9.5 VDC at 9MT4J2-C.

Is voltage correct?

Replace collective transducer 9MT4 (Task 11-3-9).

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A1P5 from left MCPU.

Check for short 9MT1J1-C and ground.

Is short present?

Repair or replace C50A24 (6) WHT.

Check for short between 9MT2J1-C and ground.

Is short present?

Repair or replace C51A24 (6) WHT.

Check for short between 9MT3J1-C and ground.

Is short present?

Repair or replace C52A24 (6) WHT.

Check for short between 9MT4J1-C and ground.

Is short present?

Repair or replace wire C53A24 (6) WHT.

Check for short between 9MT5J1-C and ground.

Is short present?

Repair or replace wire C48A24 (6) WHT.

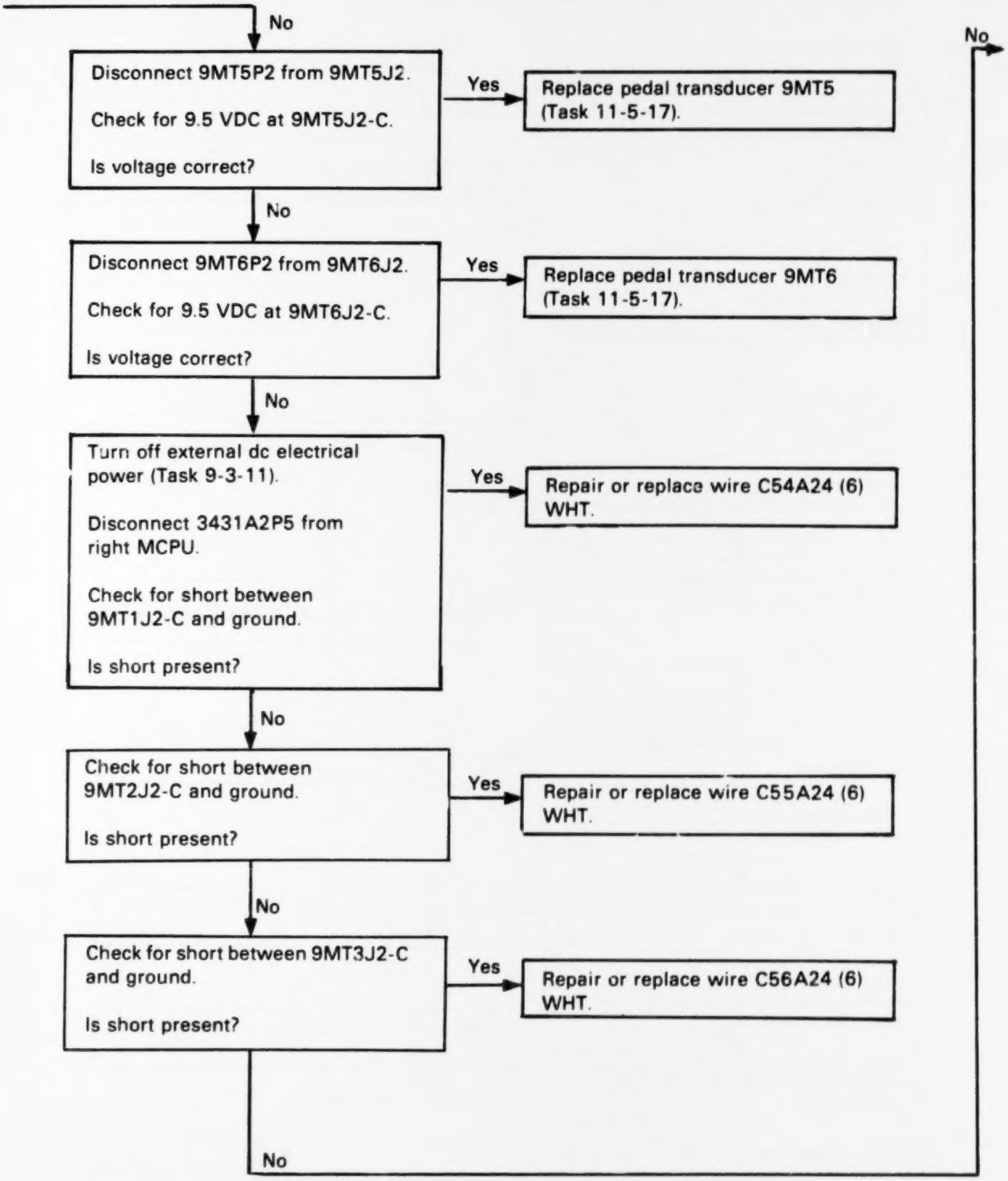
Check for short between 9MT6J1-C and ground.

Is short present?

Repair or replace wire C49A24 (6) WHT.

Replace left MCPU 3431A1 (TM 9-1427-779-20).

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)



Disconnect 9MT5P2 from 9MT5J2.

Check for 9.5 VDC at 9MT5J2-C.

Is voltage correct?

Replace pedal transducer 9MT5 (Task 11-5-17).

Disconnect 9MT6P2 from 9MT6J2.

Check for 9.5 VDC at 9MT6J2-C.

Is voltage correct?

Replace pedal transducer 9MT6 (Task 11-5-17).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 3431A2P5 from right MCPU.

Check for short between 9MT1J2-C and ground.

Is short present?

Repair or replace wire C54A24 (6) WHT.

Check for short between 9MT2J2-C and ground.

Is short present?

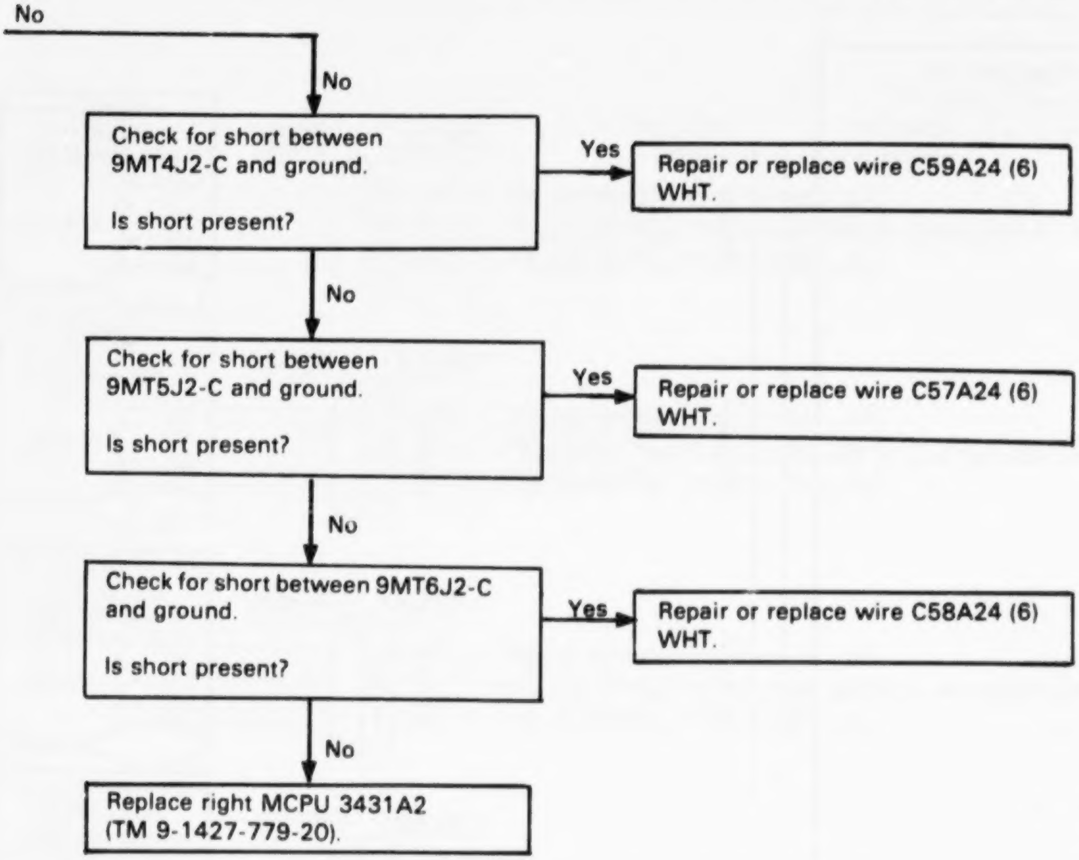
Repair or replace wire C55A24 (6) WHT.

Check for short between 9MT3J2-C and ground.

Is short present?

Repair or replace wire C56A24 (6) WHT.

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)



Check for short between 9MT4J2-C and ground.

Is short present?

Repair or replace wire C59A24 (6) WHT.

Check for short between 9MT5J2-C and ground.

Is short present?

Repair or replace wire C57A24 (6) WHT.

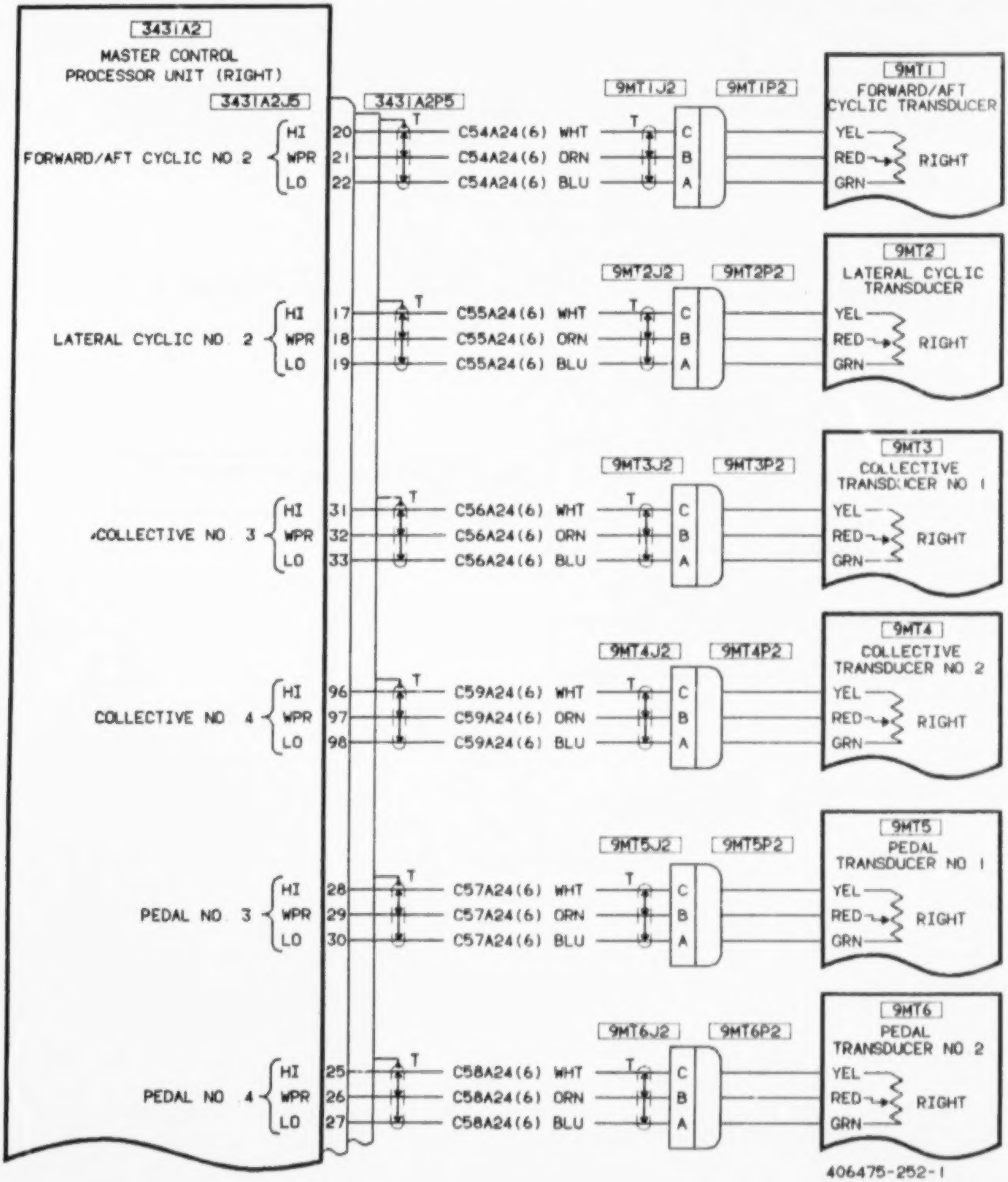
Check for short between 9MT6J2-C and ground.

Is short present?

Repair or replace wire C58A24 (6) WHT.

Replace right MCPU 3431A2 (TM 9-1427-779-20).

227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)


3431A2
MASTER CONTROL
PROCESSOR UNIT (RIGHT)
3431A2J5
3431A2P5
FORWARD/AFT CYCLIC NO 2
HI
WPR
LO
20
21
22
T
C54A24(6) WHT
C54A24(6) ORN
C54A24(6) BLU
9MT1J2
9MT1P2
C
B
A
9MT1
FORWARD/AFT
CYCLIC TRANSDUCER
YEL
RED
GRN
RIGHT
LATERAL CYCLIC NO. 2
17
18
19
C55A24(6) WHT
C55A24(6) ORN
C55A24(6) BLU
9MT2J2
9MT2P2
9MT2
LATERAL CYCLIC
TRANSDUCER
COLLECTIVE NO. 3
31
32
33
C56A24(6) WHT
C56A24(6) ORN
C56A24(6) BLU
9MT3J2
9MT3P2
9MT3
COLLECTIVE
TRANSDUCER NO 1
COLLECTIVE NO 4
96
97
98
C59A24(6) WHT
C59A24(6) ORN
C59A24(6) BLU
9MT4J2
9MT4P2
9MT4
COLLECTIVE
TRANSDUCER NO 2
PEDAL NO. 3
28
29
30
C57A24(6) WHT
C57A24(6) ORN
C57A24(6) BLU
9MT5J2
9MT5P2
9MT5
PEDAL
TRANSDUCER NO 1
PEDAL NO 4
25
26
27
C58A24(6) WHT
C58A24(6) ORN
C58A24(6) BLU
9MT6J2
9MT6P2
9MT6
PEDAL
TRANSDUCER NO 2

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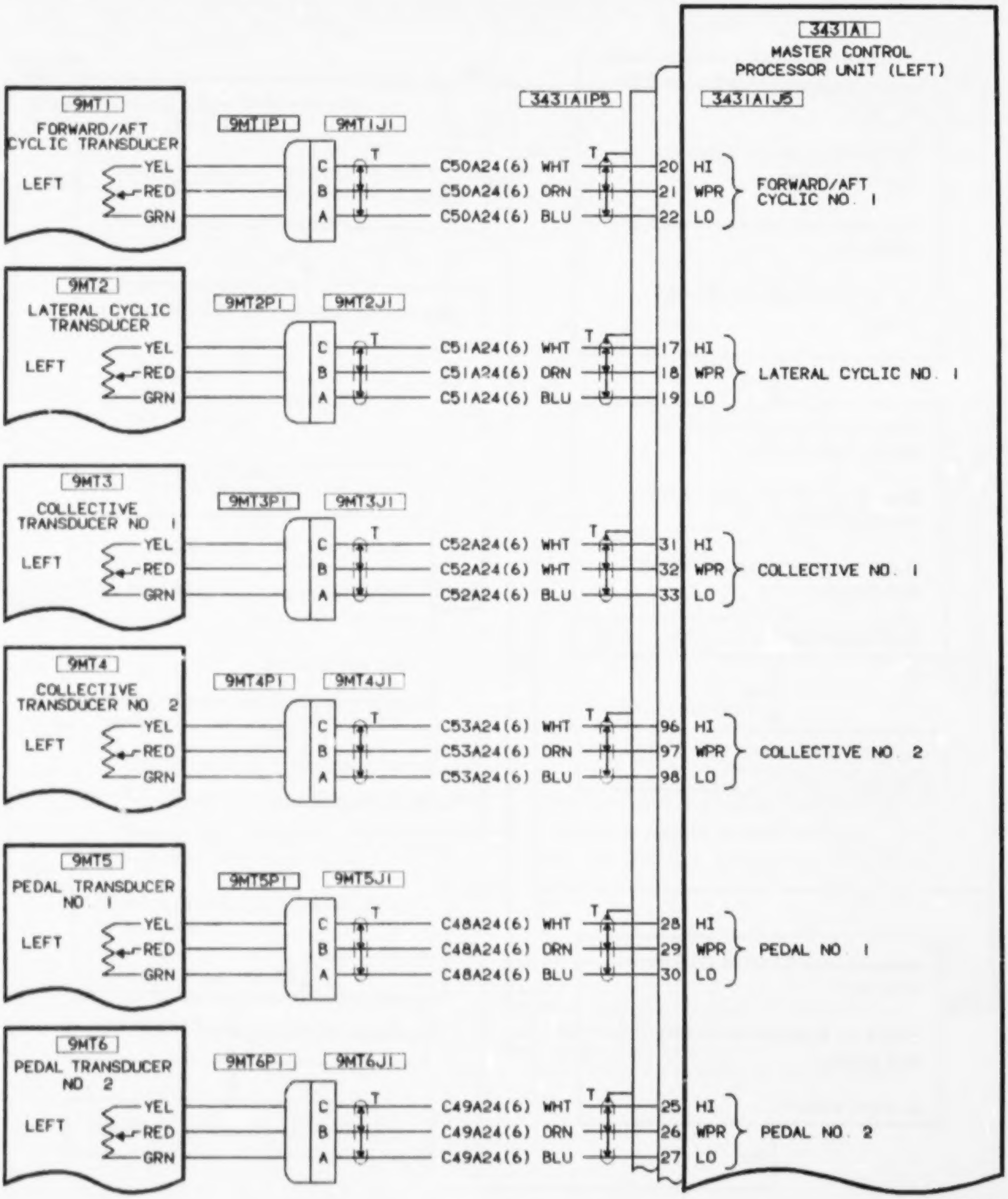
227. PITCH/ROLL AND ONE YAW CHANNEL WILL NOT ENGAGE (CONT)


3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1P5
3431A1J5
9MT1
FORWARD/AFT CYCLIC TRANSDUCER
LEFT
YEL
RED
GRN
9MT1P1
9MT1J1
C
B
A
T
C50A24(6) WHT
C50A24(6) ORN
C50A24(6) BLU
20 HI
21 WPR
22 LO
FORWARD/AFT CYCLIC NO. 1
9MT2
LATERAL CYCLIC TRANSDUCER
LEFT
9MT2P1
9MT2J1
C51A24(6) WHT
C51A24(6) ORN
C51A24(6) BLU
17 HI
18 WPR
19 LO
LATERAL CYCLIC NO. 1
9MT3
COLLECTIVE TRANSDUCER NO 1
LEFT
9MT3P1
9MT3J1
C52A24(6) WHT
C52A24(6) WHT
C52A24(6) BLU
31 HI
32 WPR
33 LO
COLLECTIVE NO. 1
9MT4
COLLECTIVE TRANSDUCER NO 2
LEFT
9MT4P1
9MT4J1
C53A24(6) WHT
C53A24(6) ORN
C53A24(6) BLU
96 HI
97 WPR
98 LO
COLLECTIVE NO. 2
9MT5
PEDAL TRANSDUCER NO 1
LEFT
9MT5P1
9MT5J1
C48A24(6) WHT
C48A24(6) ORN
C48A24(6) BLU
28 HI
29 WPR
30 LO
PEDAL NO. 1
9MT6
PEDAL TRANSDUCER NO 2
LEFT
9MT6P1
9MT6J1
C49A24(6) WHT
C49A24(6) ORN
C49A24(6) BLU
25 HI
26 WPR
27 LO
PEDAL NO. 2

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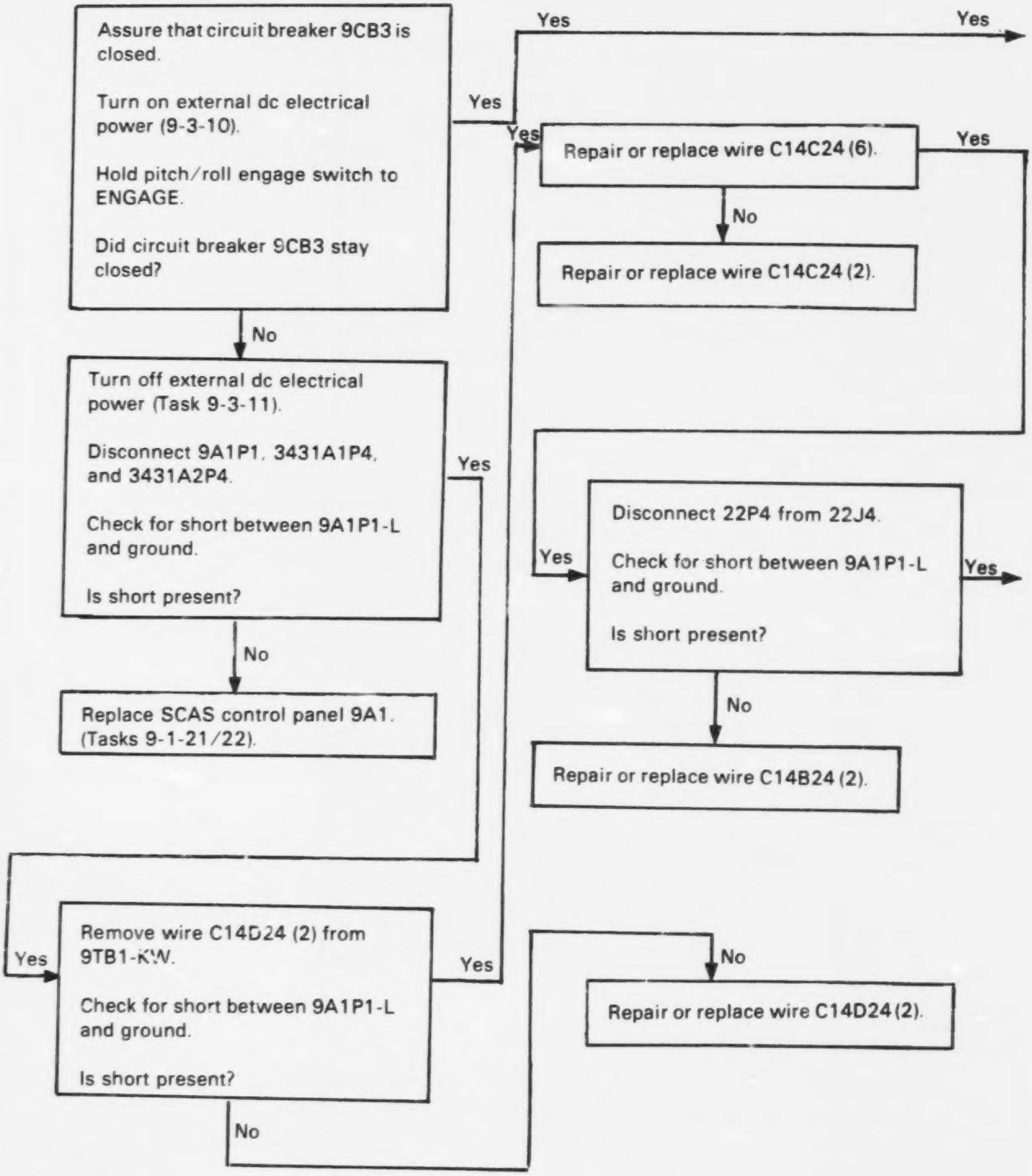
406-475-606A

228. PITCH AND ROLL (ONLY) WILL NOT ENGAGE



Assure that circuit breaker 9CB3 is closed.

Turn on external dc electrical power (9-3-10).

Hold pitch/roll engage switch to ENGAGE.

Did circuit breaker 9CB3 stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1, 3431A1P4, and 3431A2P4.

Check for short between 9A1P1-L and ground.

Is short present?

Replace SCAS control panel 9A1. (Tasks 9-1-21/22).

Remove wire C14D24 (2) from 9TB1-KW.

Check for short between 9A1P1-L and ground.

Is short present?

Repair or replace wire C14C24 (6).

Repair or replace wire C14C24 (2).

Disconnect 22P4 from 22J4.

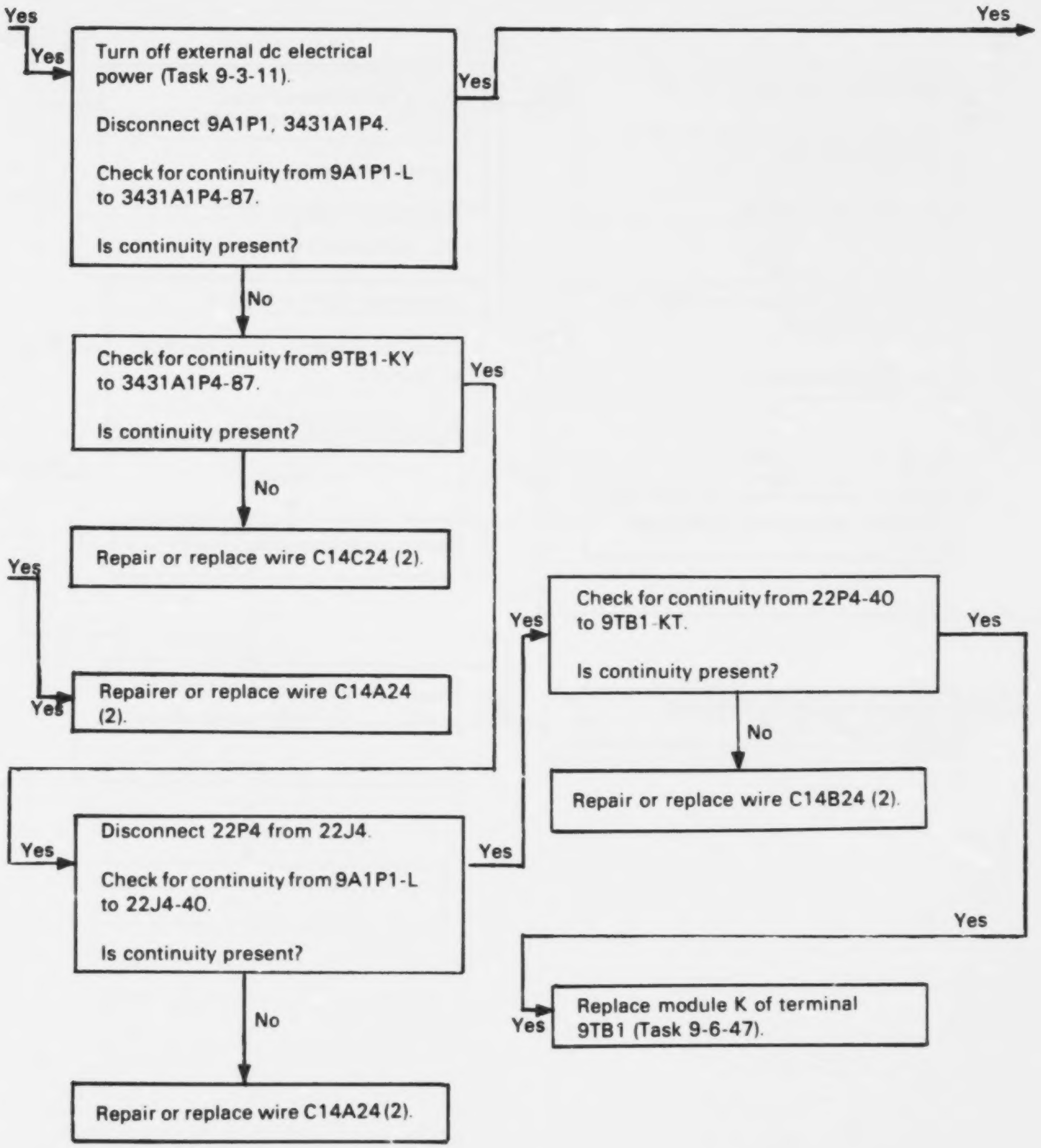
Check for short between 9A1P1-L and ground.

Is short present?

Repair or replace wire C14B24 (2).

Repair or replace wire C14D24 (2).

228. PITCH AND ROLL (ONLY) WILL NOT ENGAGE (CONT)



Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1, 3431A1P4.

Check for continuity from 9A1P1-L to 3431A1P4-87.

Is continuity present?

Check for continuity from 9TB1-KY to 3431A1P4-87.

Is continuity present?

Repair or replace wire C14C24 (2).

Repairer or replace wire C14A24 (2).

Disconnect 22P4 from 22J4.

Check for continuity from 9A1P1-L to 22J4-40.

Is continuity present?

Repair or replace wire C14A24 (2).

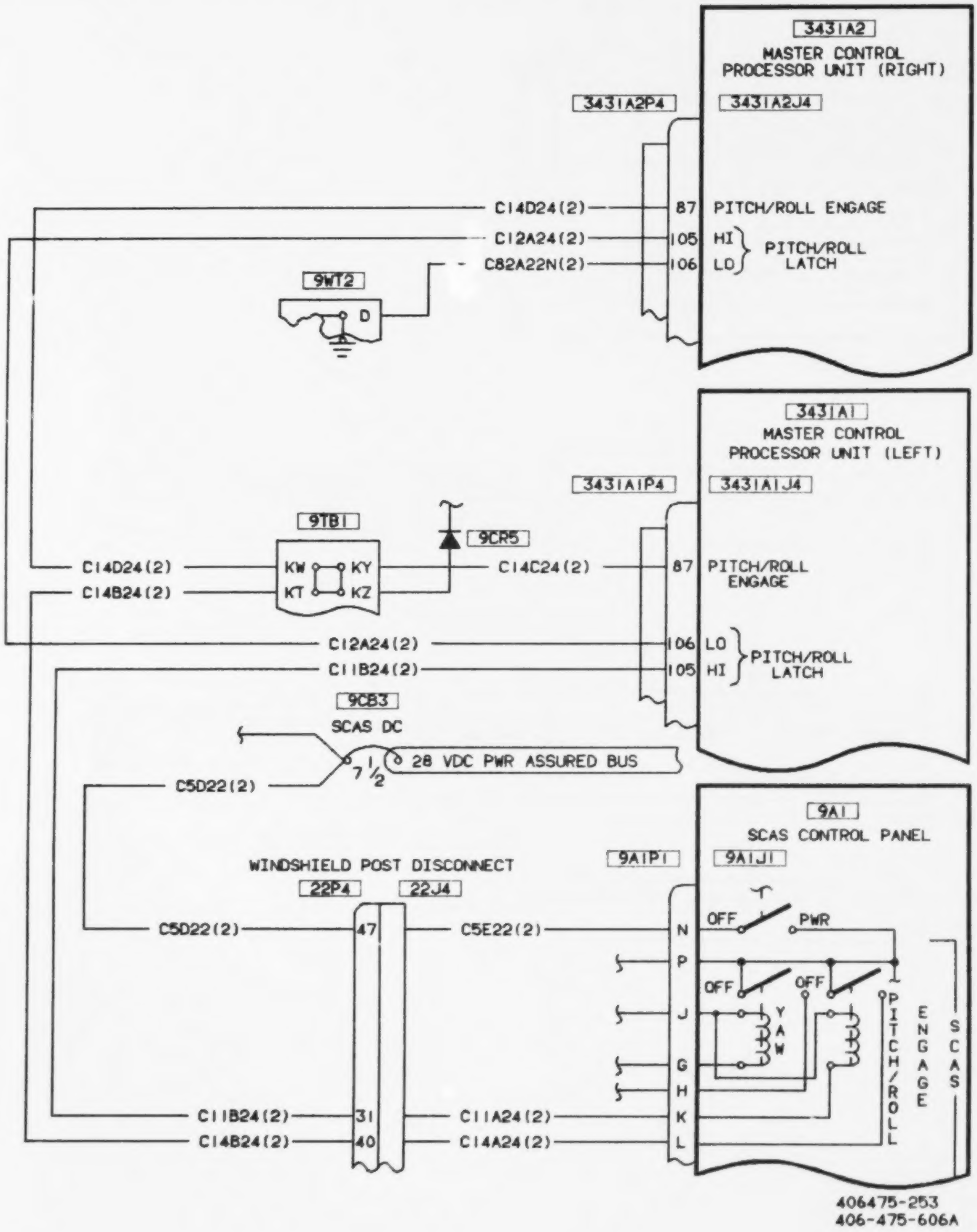
Check for continuity from 22P4-40 to 9TB1-KT.

Is continuity present?

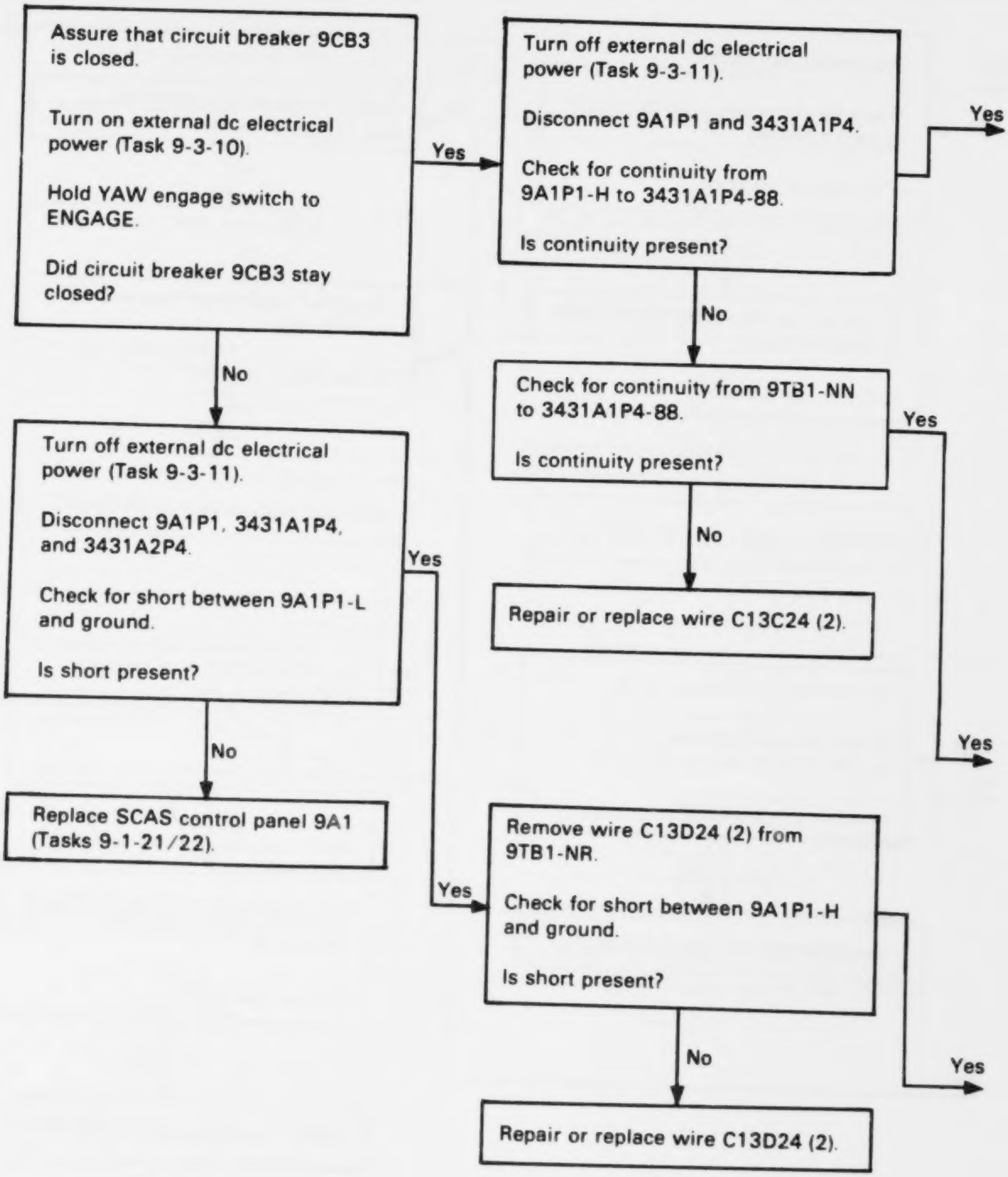
Repair or replace wire C14B24 (2).

Replace module K of terminal 9TB1 (Task 9-6-47).

228. PITCH AND ROLL (ONLY) WILL NOT ENGAGE (CONT)


3431A2
MASTER CONTROL PROCESSOR UNIT (RIGHT)
3431A2P4
3431A2J4
C14D24(2)
87 PITCH/ROLL ENGAGE
C12A24(2)
105 HI
106 LO
PITCH/ROLL LATCH
C82A22N(2)
9WT2
D
3431A1
MASTER CONTROL PROCESSOR UNIT (LEFT)
3431A1P4
3431A1J4
9TB1
KW
KY
KT
KZ
9CR5
C14D24(2)
C14B24(2)
C14C24(2)
87 PITCH/ROLL ENGAGE
C12A24(2)
C11B24(2)
106 LO
105 HI
PITCH/ROLL LATCH
9CB3
SCAS DC
7 1/2
28 VDC PWR ASSURED BUS
C5D22(2)
9A1
SCAS CONTROL PANEL
9A1P1
9A1J1
WINDSHIELD POST DISCONNECT
22P4
22J4
C5D22(2)
47
C5E22(2)
N
P
J
G
H
K
L
OFF
PWR
OFF
OFF
YAW
PITCH/ROLL
ENGAGE
SCAS
C11B24(2)
31
C11A24(2)
C14B24(2)
40
C14A24(2)
406475-253
406-475-606A

229. YAW (ONLY) WILL NOT ENGAGE



Assure that circuit breaker 9CB3 is closed.

Turn on external dc electrical power (Task 9-3-10).

Hold YAW engage switch to ENGAGE.

Did circuit breaker 9CB3 stay closed?

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1 and 3431A1P4.

Check for continuity from 9A1P1-H to 3431A1P4-88.

Is continuity present?

Check for continuity from 9TB1-NN to 3431A1P4-88.

Is continuity present?

Repair or replace wire C13C24 (2).

Turn off external dc electrical power (Task 9-3-11).

Disconnect 9A1P1, 3431A1P4, and 3431A2P4.

Check for short between 9A1P1-L and ground.

Is short present?

Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

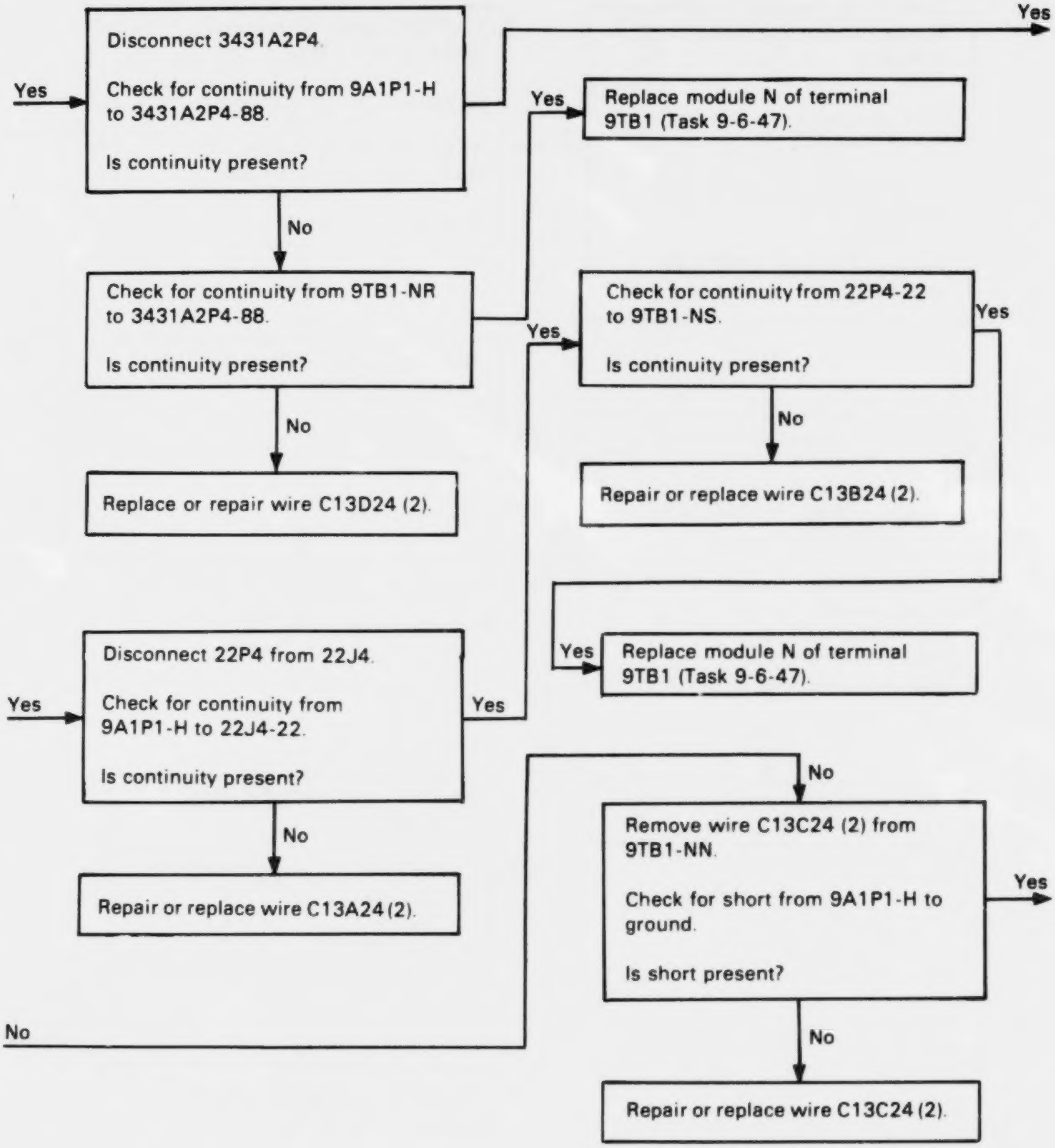
Remove wire C13D24 (2) from 9TB1-NR.

Check for short between 9A1P1-H and ground.

Is short present?

Repair or replace wire C13D24 (2).

229. YAW (ONLY) WILL NOT ENGAGE (CONT)



Disconnect 3431A2P4.

Check for continuity from 9A1P1-H to 3431A2P4-88.

Is continuity present?

Replace module N of terminal 9TB1 (Task 9-6-47).

Check for continuity from 9TB1-NR to 3431A2P4-88.

Is continuity present?

Replace or repair wire C13D24 (2).

Check for continuity from 22P4-22 to 9TB1-NS.

Is continuity present?

Repair or replace wire C13B24 (2).

Disconnect 22P4 from 22J4.

Check for continuity from 9A1P1-H to 22J4-22.

Is continuity present?

Replace module N of terminal 9TB1 (Task 9-6-47).

Repair or replace wire C13A24 (2).

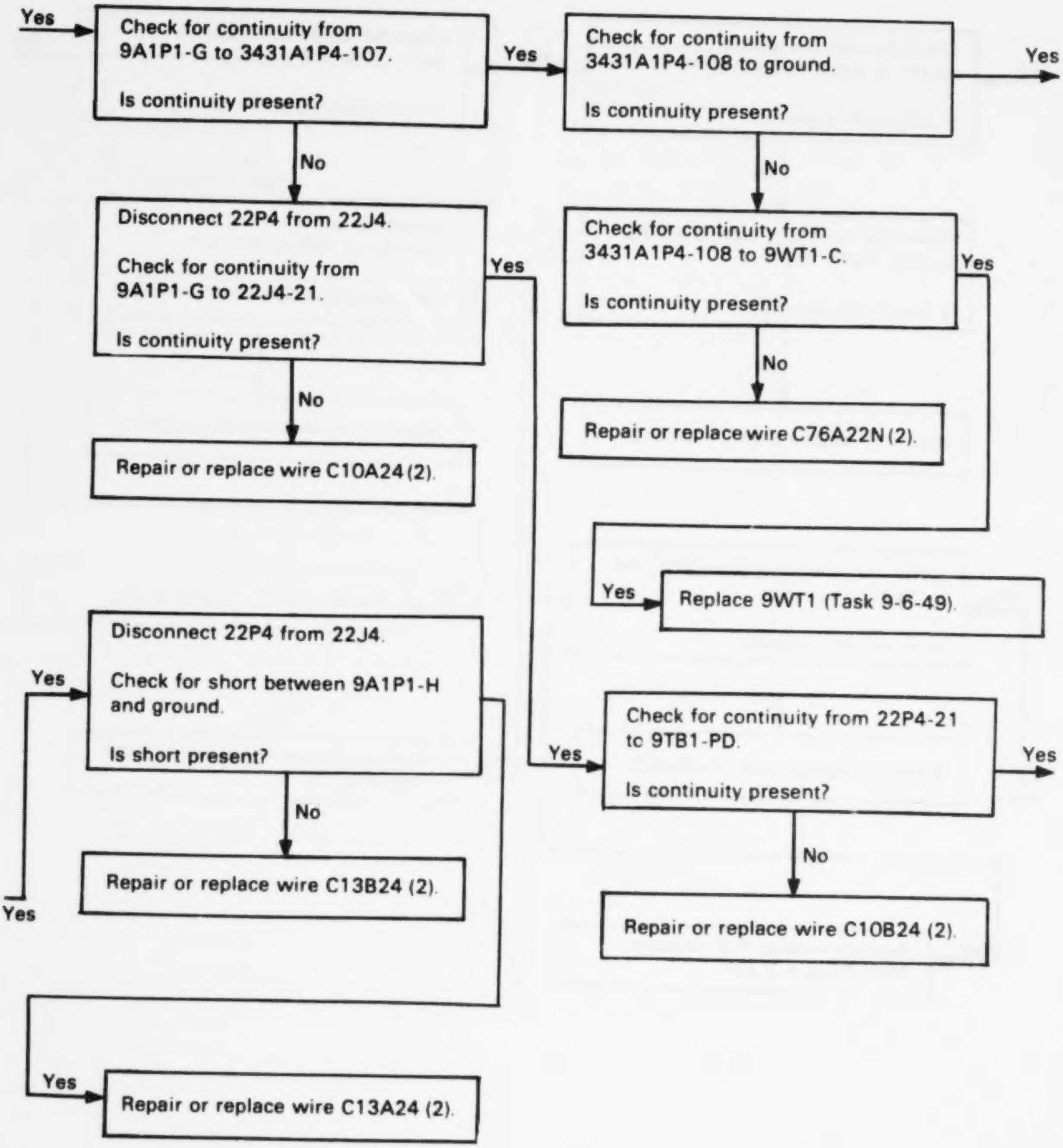
Remove wire C13C24 (2) from 9TB1-NN.

Check for short from 9A1P1-H to ground.

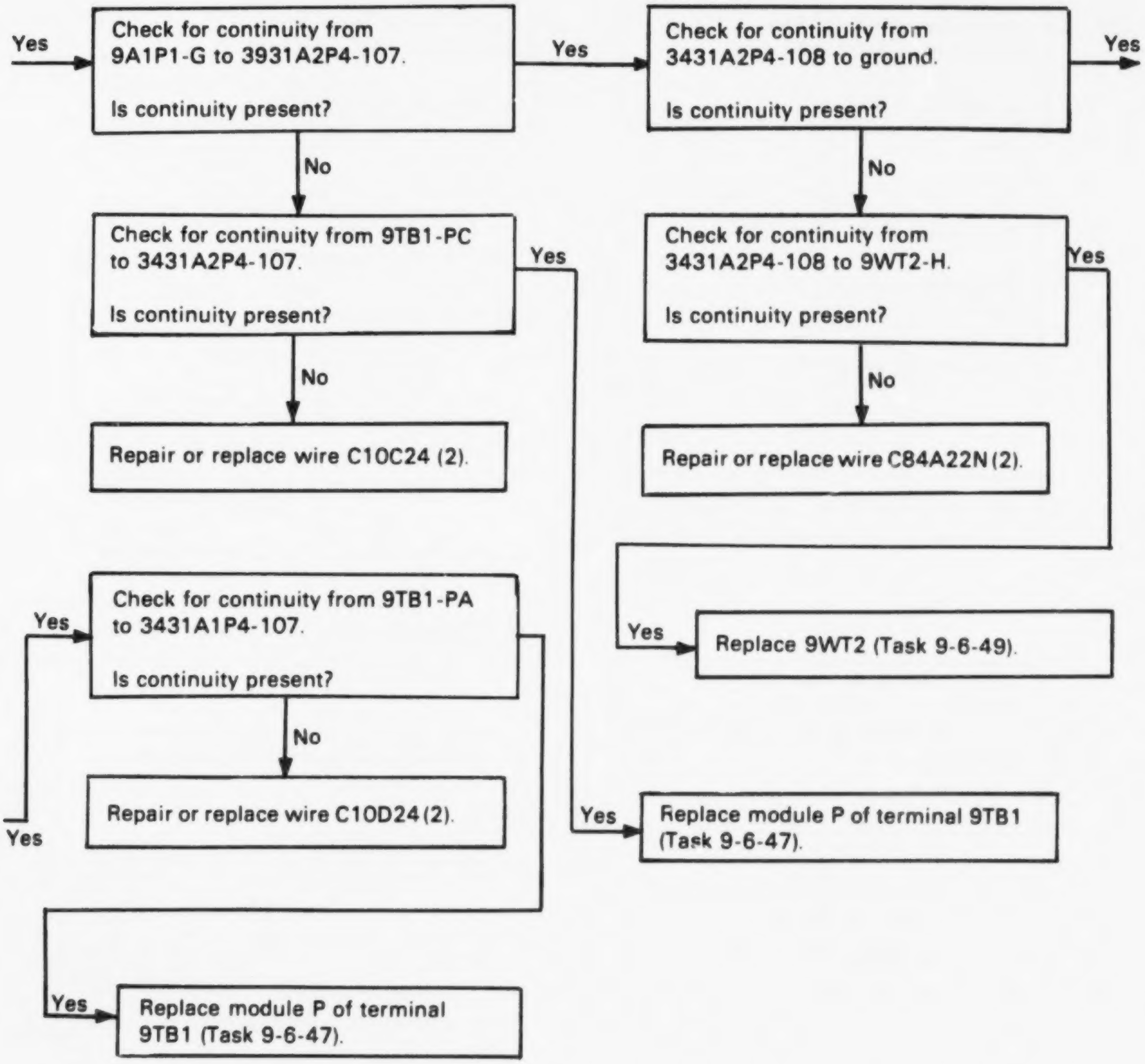
Is short present?

Repair or replace wire C13C24 (2).

229. YAW (ONLY) WILL NOT ENGAGE (CONT)


Yes
Check for continuity from 9A1P1-G to 3431A1P4-107.
Is continuity present?
Yes
Check for continuity from 3431A1P4-108 to ground.
Is continuity present?
Yes
No
No
Disconnect 22P4 from 22J4.
Check for continuity from 9A1P1-G to 22J4-21.
Is continuity present?
Yes
Check for continuity from 3431A1P4-108 to 9WT1-C.
Is continuity present?
Yes
No
No
Repair or replace wire C10A24 (2).
Repair or replace wire C76A22N (2).
Yes
Replace 9WT1 (Task 9-6-49).
Disconnect 22P4 from 22J4.
Yes
Check for short between 9A1P1-H and ground.
Is short present?
Yes
Check for continuity from 22P4-21 to 9TB1-PD.
Is continuity present?
Yes
No
No
Repair or replace wire C13B24 (2).
Yes
Repair or replace wire C10B24 (2).
Yes
Repair or replace wire C13A24 (2).

229. YAW (ONLY) WILL NOT ENGAGE (CONT)



Check for continuity from 9A1P1-G to 3931A2P4-107.

Is continuity present?

Check for continuity from 3431A2P4-108 to ground.

Is continuity present?

Check for continuity from 9TB1-PC to 3431A2P4-107.

Is continuity present?

Check for continuity from 3431A2P4-108 to 9WT2-H.

Is continuity present?

Repair or replace wire C10C24 (2).

Repair or replace wire C84A22N (2).

Check for continuity from 9TB1-PA to 3431A1P4-107.

Is continuity present?

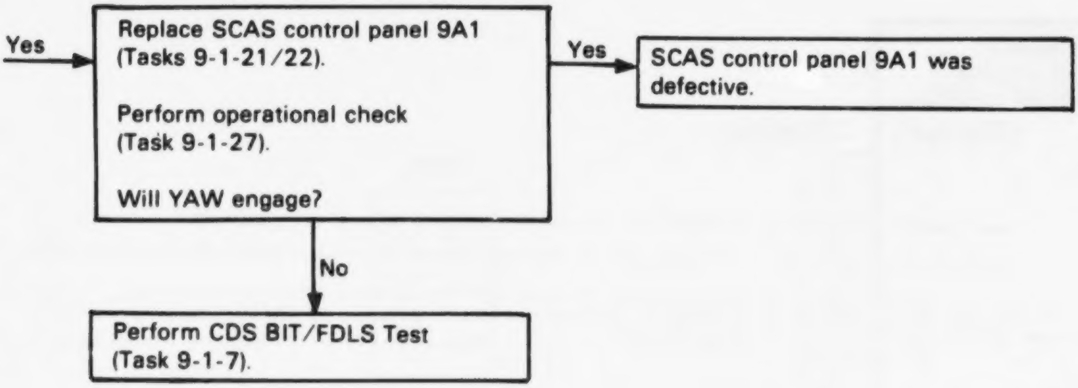
Replace 9WT2 (Task 9-6-49).

Repair or replace wire C10D24 (2).

Replace module P of terminal 9TB1 (Task 9-6-47).

Replace module P of terminal 9TB1 (Task 9-6-47).

229. YAW (ONLY) WILL NOT ENGAGE (CONT)



Replace SCAS control panel 9A1 (Tasks 9-1-21/22).

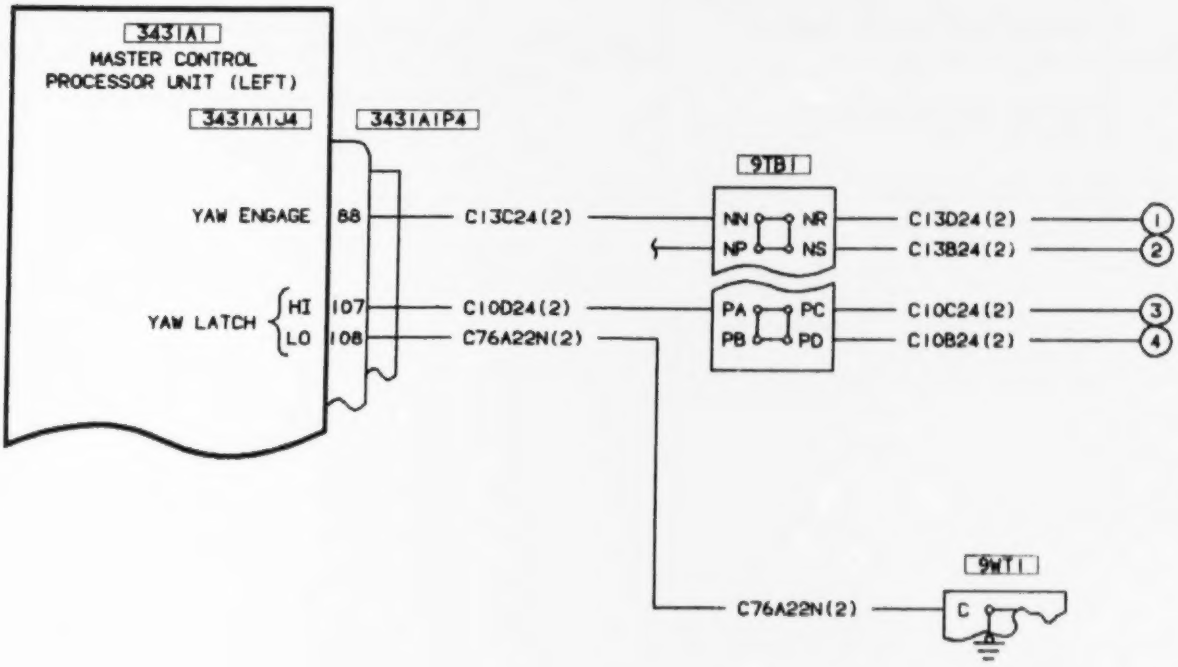
Perform operational check (Task 9-1-27).

Will YAW engage?

SCAS control panel 9A1 was defective.

Perform CDS BIT/FDLS Test (Task 9-1-7).

229. YAW (ONLY) WILL NOT ENGAGE (CONT)


343IAI
MASTER CONTROL
PROCESSOR UNIT (LEFT)
343IAIJ4
343IAIP4
YAW ENGAGE
88
C13C24(2)
YAW LATCH
HI
107
C10D24(2)
LO
108
C76A22N(2)
9TB1
NN
NR
NP
NS
PA
PC
PB
PD
C13D24(2)
C13B24(2)
C10C24(2)
C10B24(2)
1
2
3
4
9WT1
C76A22N(2)
C

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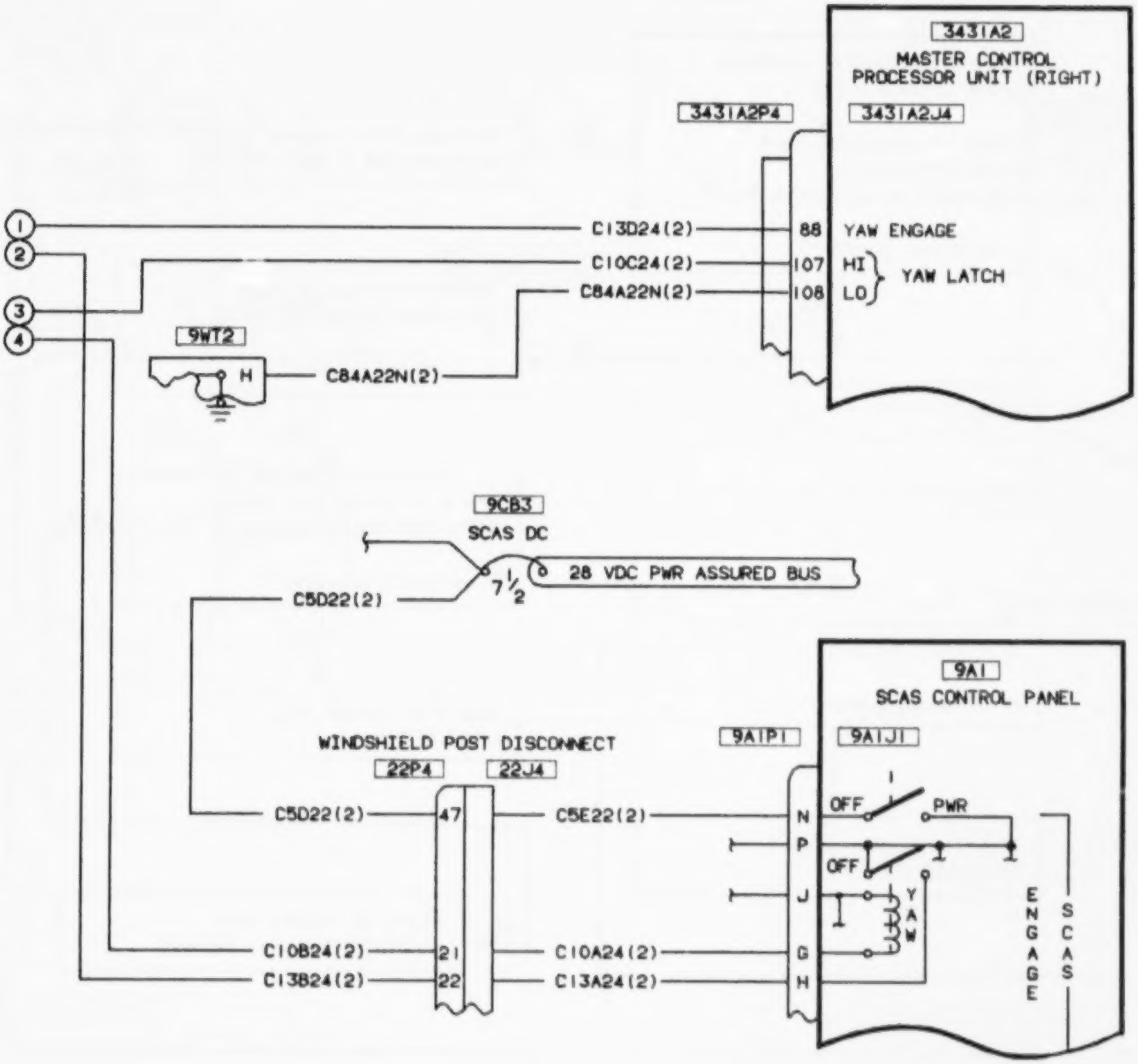
406-475-606A

229. YAW (ONLY) WILL NOT ENGAGE (CONT)


3431A2
MASTER CONTROL
PROCESSOR UNIT (RIGHT)
3431A2P4
3431A2J4
1
2
3
4
C13D24(2)
C10C24(2)
C84A22N(2)
88
107
108
YAW ENGAGE
HI
LO
YAW LATCH
9WT2
H
C84A22N(2)
9CB3
SCAS DC
7 1/2
28 VDC PWR ASSURED BUS
C5D22(2)
9A1
SCAS CONTROL PANEL
WINDSHIELD POST DISCONNECT
22P4
22J4
9A1P1
9A1J1
C5D22(2)
47
C5E22(2)
N
P
J
G
H
OFF
PWR
OFF
YAW
ENGAGE
SCAS
C10B24(2)
21
C10A24(2)
C13B24(2)
22
C13A24(2)

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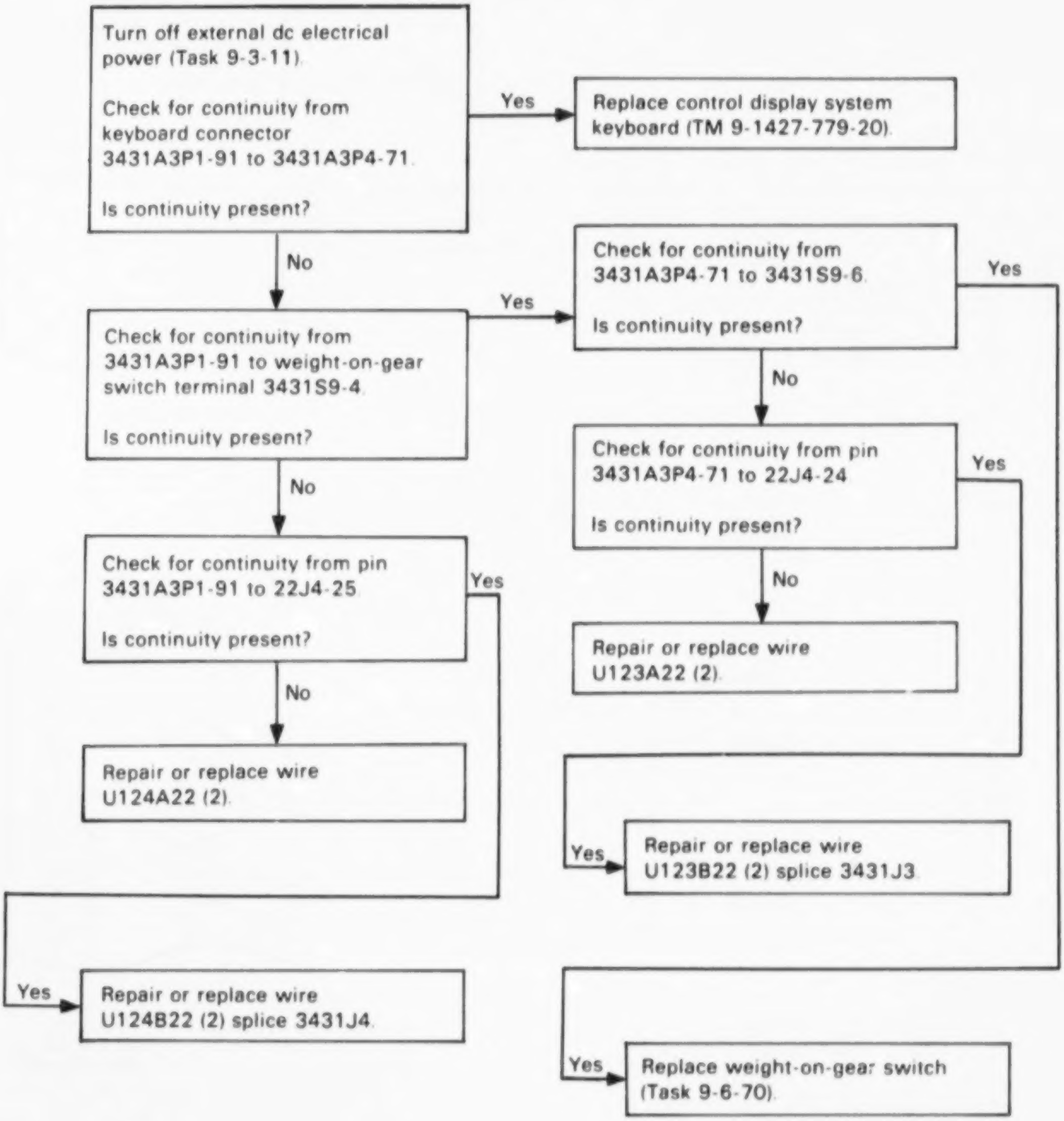
406-475-606A

230. FDL MENU PAGE WILL NOT APPEAR



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from keyboard connector 3431A3P1-91 to 3431A3P4-71.

Is continuity present?

Replace control display system keyboard (TM 9-1427-779-20).

Check for continuity from 3431A3P1-91 to weight-on-gear switch terminal 3431S9-4.

Is continuity present?

Check for continuity from 3431A3P4-71 to 3431S9-6.

Is continuity present?

Check for continuity from pin 3431A3P1-91 to 22J4-25.

Is continuity present?

Check for continuity from pin 3431A3P4-71 to 22J4-24.

Is continuity present?

Repair or replace wire U124A22 (2).

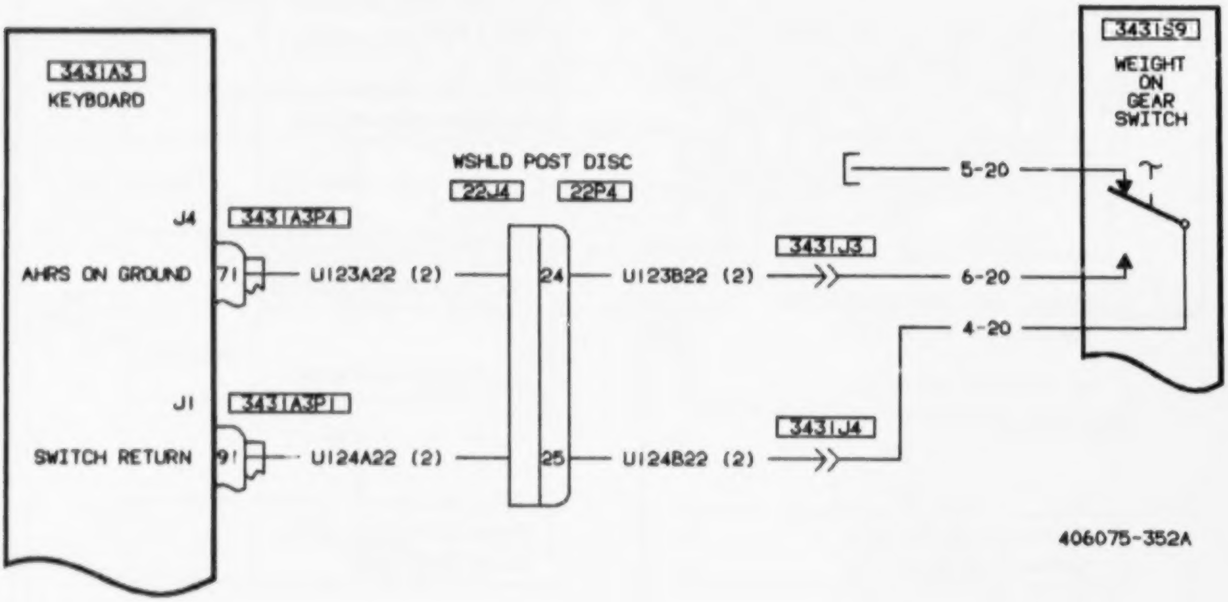
Repair or replace wire U123A22 (2).

Repair or replace wire U123B22 (2) splice 3431J3.

Repair or replace wire U124B22 (2) splice 3431J4.

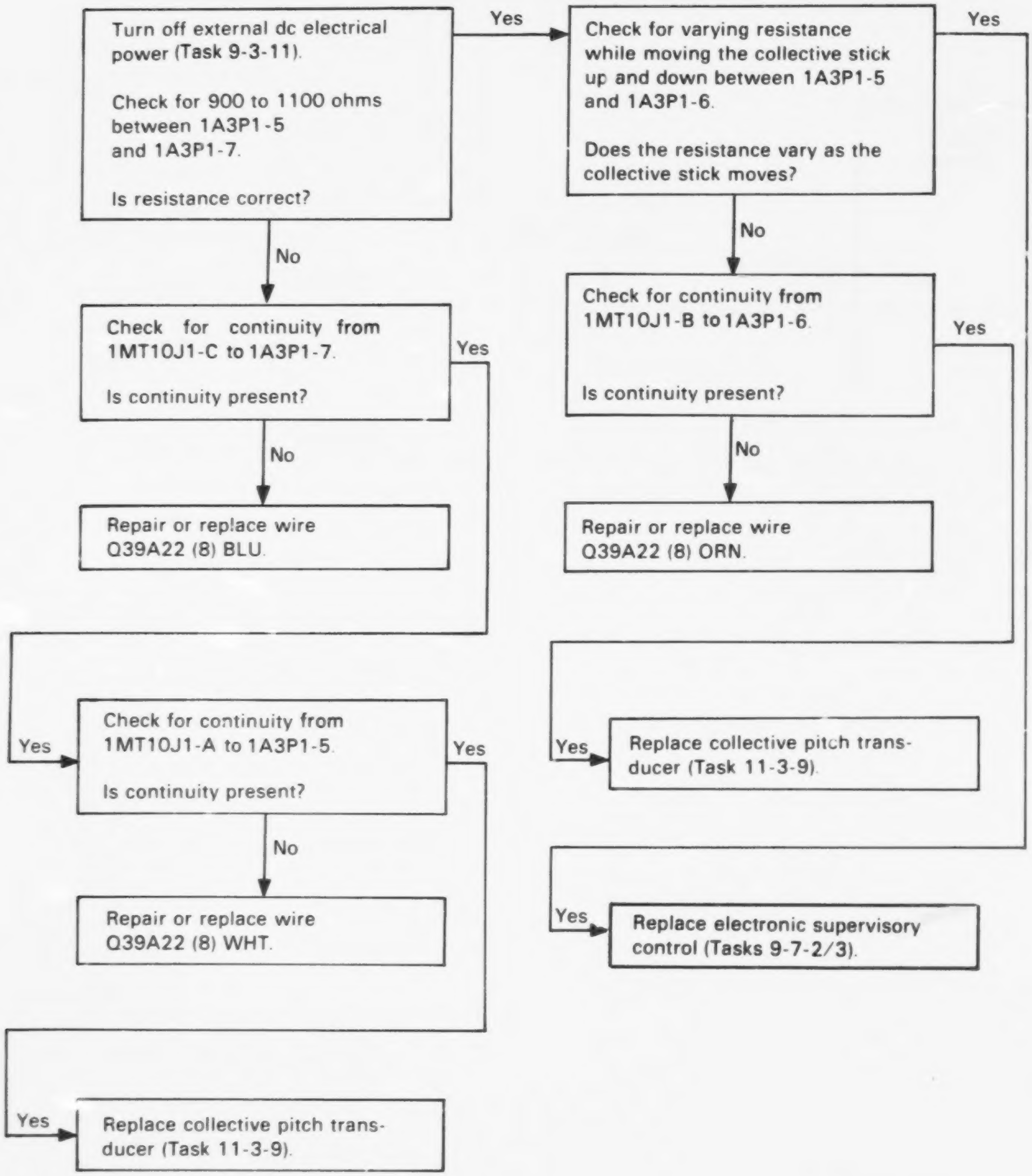
Replace weight-on-gear switch (Task 9-6-70).

230. FDL MENU PAGE WILL NOT APPEAR (CONT)

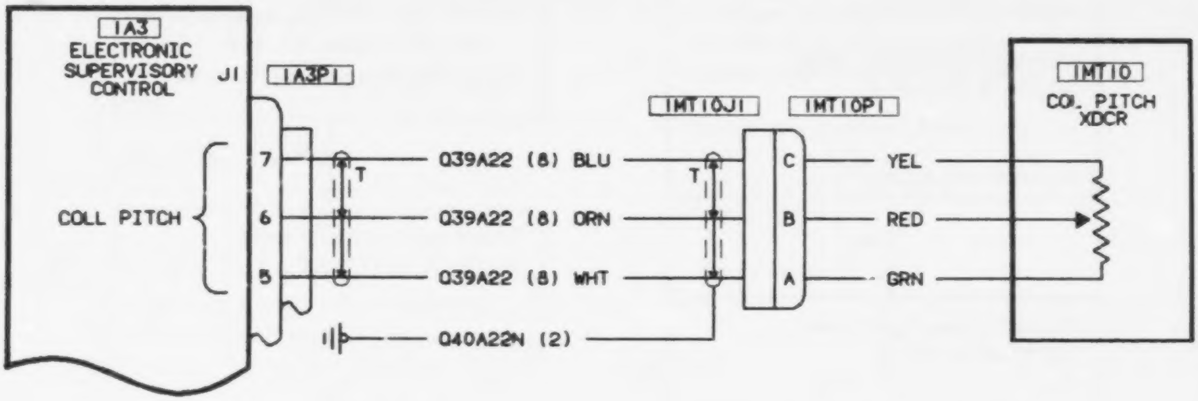

3431A3
KEYBOARD
J4
3431A3P4
AHRS ON GROUND
7
U123A22 (2)
J1
3431A3P1
SWITCH RETURN
9
U124A22 (2)
WSHLD POST DISC
22J4
22P4
24
25
U123B22 (2)
U124B22 (2)
3431J3
3431J4
5-20
6-20
4-20
3431S9
WEIGHT ON GEAR SWITCH

406075-352A

231. ENGINE DROOPS DURING INCREASE IN COLLECTIVE

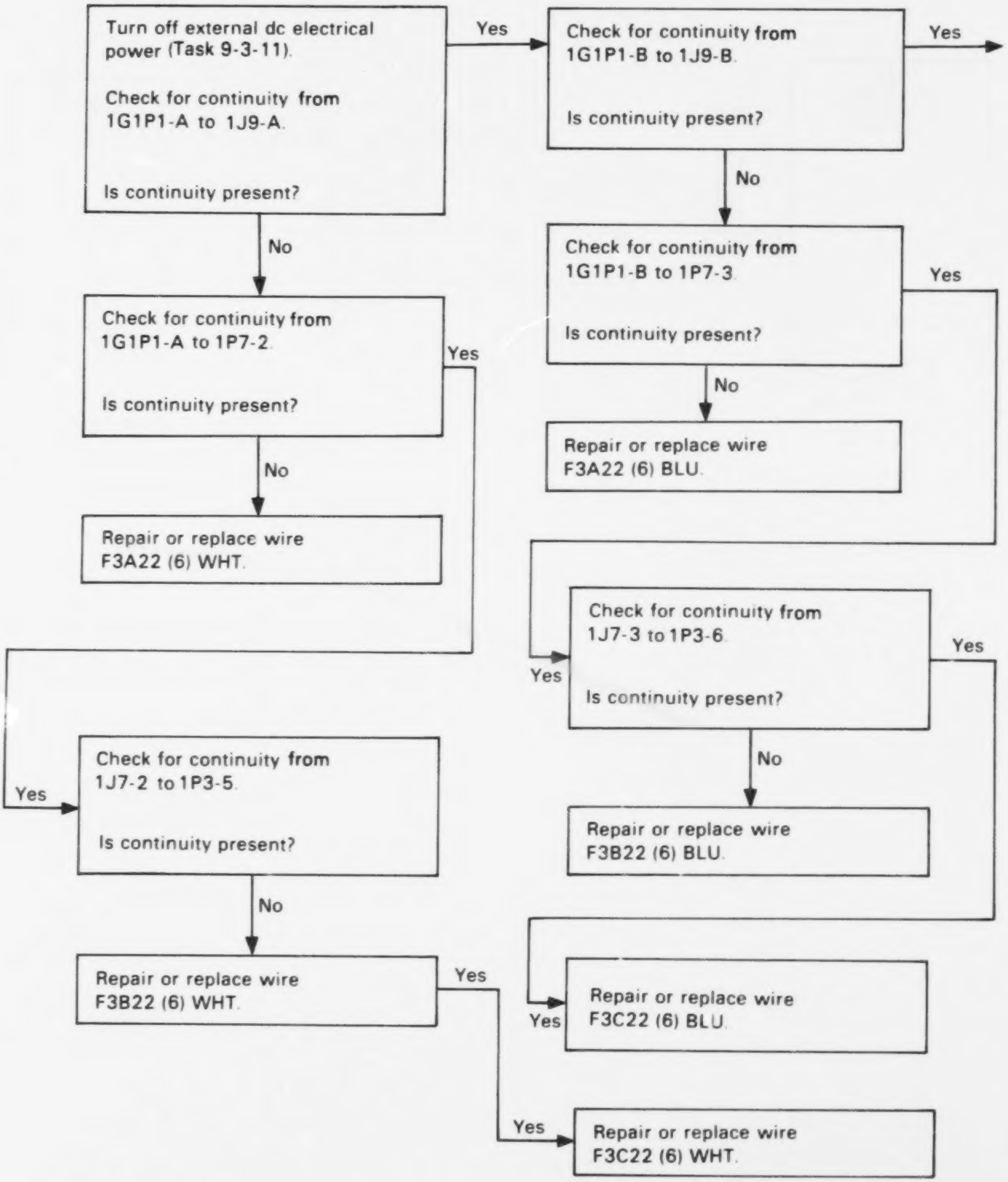

Turn off external dc electrical power (Task 9-3-11).
Check for 900 to 1100 ohms between 1A3P1-5 and 1A3P1-7.
Is resistance correct?
Yes
Check for varying resistance while moving the collective stick up and down between 1A3P1-5 and 1A3P1-6.
Does the resistance vary as the collective stick moves?
Yes
No
No
Check for continuity from 1MT10J1-B to 1A3P1-6.
Is continuity present?
Yes
Check for continuity from 1MT10J1-C to 1A3P1-7.
Is continuity present?
Yes
No
No
Repair or replace wire Q39A22 (8) BLU.
Repair or replace wire Q39A22 (8) ORN.
Yes
Check for continuity from 1MT10J1-A to 1A3P1-5.
Is continuity present?
Yes
Yes
Replace collective pitch transducer (Task 11-3-9).
No
Repair or replace wire Q39A22 (8) WHT.
Yes
Replace electronic supervisory control (Tasks 9-7-2/3).
Yes
Replace collective pitch transducer (Task 11-3-9).

231. ENGINE DROOPS DURING INCREASE IN COLLECTIVE (CONT)

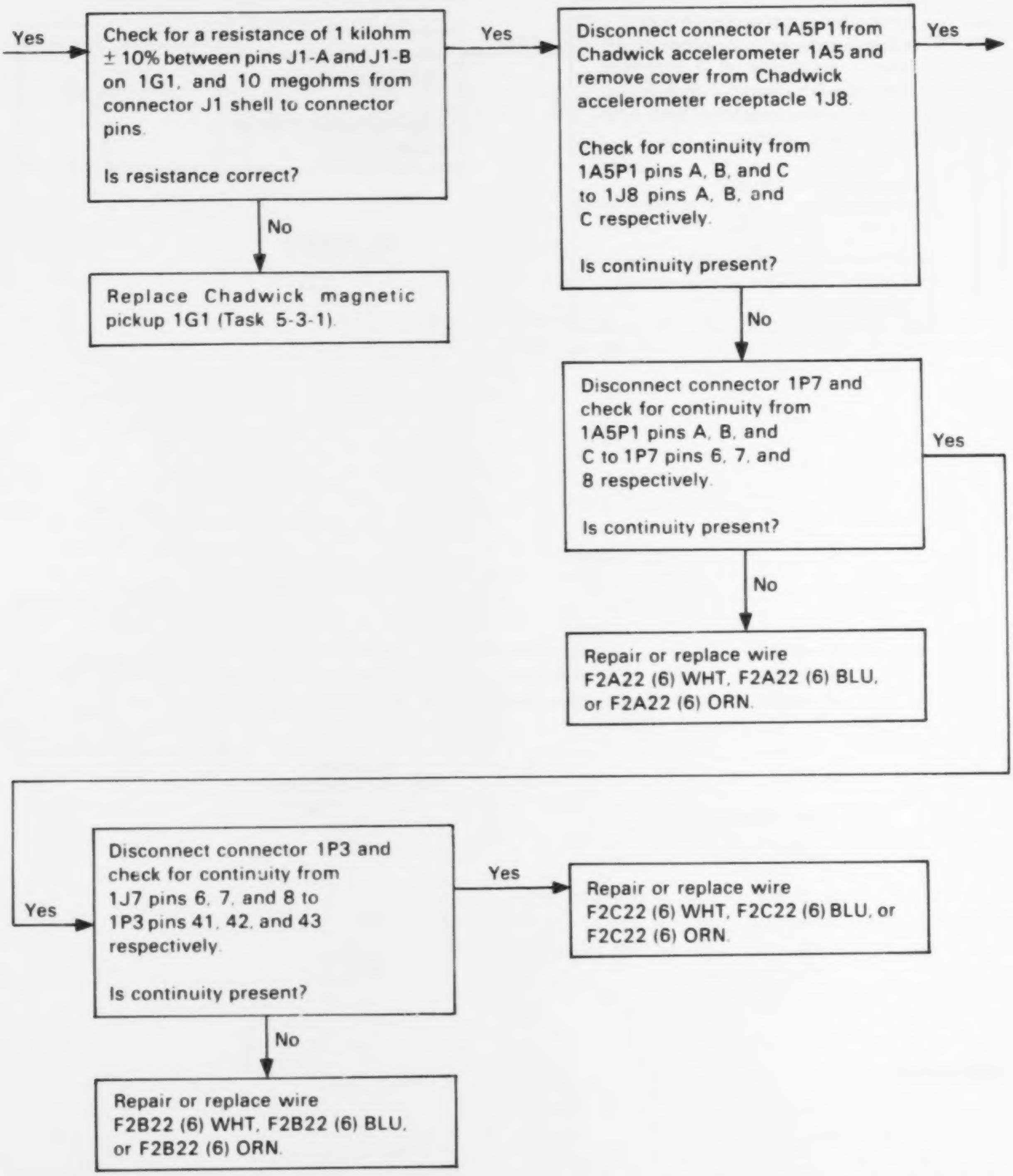

1A3
ELECTRONIC SUPERVISORY CONTROL
J1
1A3P1
COLL PITCH
7
6
5
T
Q39A22 (8) BLU
Q39A22 (8) ORN
Q39A22 (8) WHT
Q40A22N (2)
1MT10J1
1MT10P1
C
B
A
YEL
RED
GRN
1MT10
COL PITCH XDCR

406475-206B

232. CHADWICK ROTOR BALANCING EQUIPMENT INOPERATIVE


Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1G1P1-A to 1J9-A.
Is continuity present?
Yes
Check for continuity from 1G1P1-B to 1J9-B.
Is continuity present?
Yes
No
Check for continuity from 1G1P1-A to 1P7-2.
Is continuity present?
Yes
No
Repair or replace wire F3A22 (6) WHT.
No
Check for continuity from 1G1P1-B to 1P7-3.
Is continuity present?
Yes
No
Repair or replace wire F3A22 (6) BLU.
Yes
Check for continuity from 1J7-3 to 1P3-6.
Is continuity present?
Yes
No
Repair or replace wire F3B22 (6) BLU.
Yes
Check for continuity from 1J7-2 to 1P3-5.
Is continuity present?
No
Repair or replace wire F3B22 (6) WHT.
Yes
Yes
Repair or replace wire F3C22 (6) BLU.
Yes
Repair or replace wire F3C22 (6) WHT.

232. CHADWICK ROTOR BALANCING EQUIPMENT INOPERATIVE (CONT)



Check for a resistance of 1 kilohm ± 10% between pins J1-A and J1-B on 1G1, and 10 megohms from connector J1 shell to connector pins.

Is resistance correct?

Replace Chadwick magnetic pickup 1G1 (Task 5-3-1).

Disconnect connector 1A5P1 from Chadwick accelerometer 1A5 and remove cover from Chadwick accelerometer receptacle 1J8.

Check for continuity from 1A5P1 pins A, B, and C to 1J8 pins A, B, and C respectively.

Is continuity present?

Disconnect connector 1P7 and check for continuity from 1A5P1 pins A, B, and C to 1P7 pins 6, 7, and 8 respectively.

Is continuity present?

Repair or replace wire F2A22 (6) WHT, F2A22 (6) BLU, or F2A22 (6) ORN.

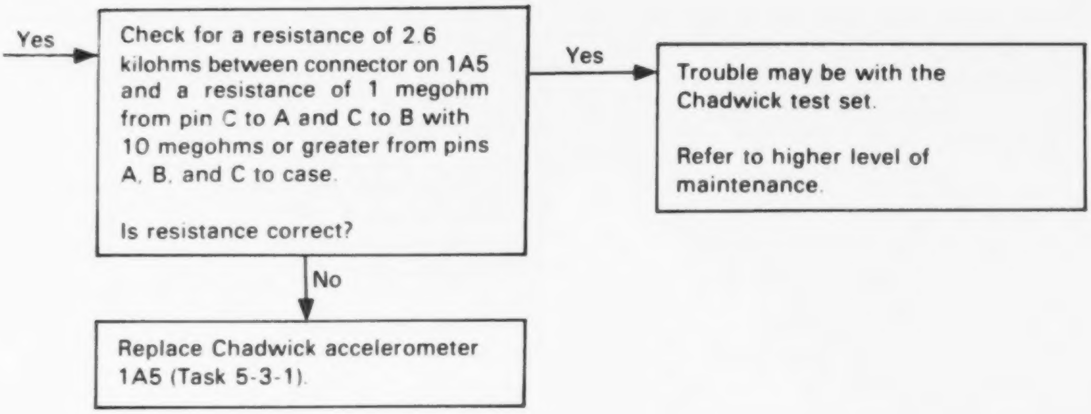
Disconnect connector 1P3 and check for continuity from 1J7 pins 6, 7, and 8 to 1P3 pins 41, 42, and 43 respectively.

Is continuity present?

Repair or replace wire F2C22 (6) WHT, F2C22 (6) BLU, or F2C22 (6) ORN.

Repair or replace wire F2B22 (6) WHT, F2B22 (6) BLU, or F2B22 (6) ORN.

232. CHADWICK ROTOR BALANCING EQUIPMENT INOPERATIVE (CONT)



Check for a resistance of 2.6 kilohms between connector on 1A5 and a resistance of 1 megohm from pin C to A and C to B with 10 megohms or greater from pins A, B, and C to case.

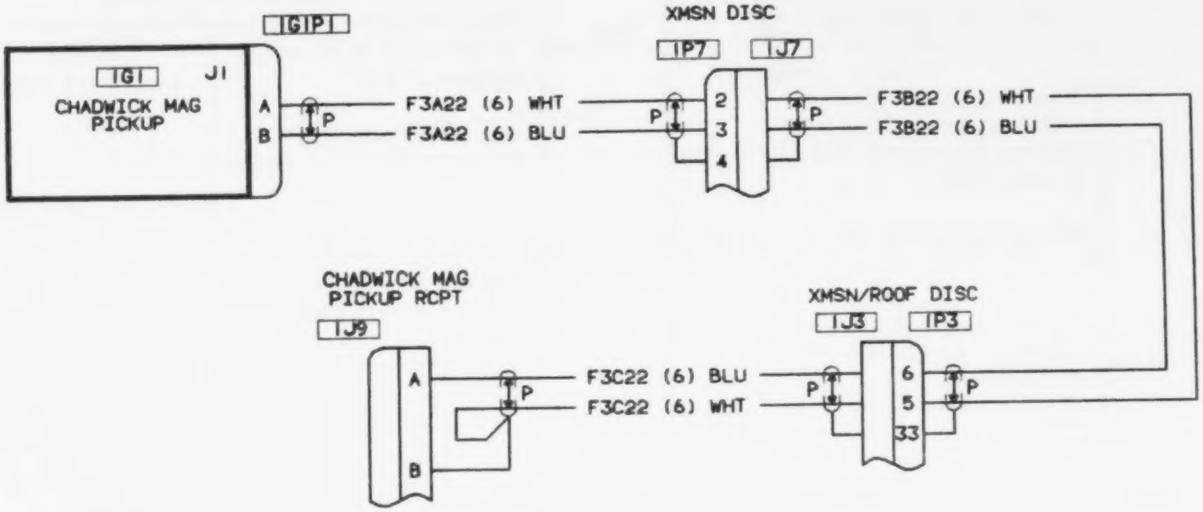
Is resistance correct?

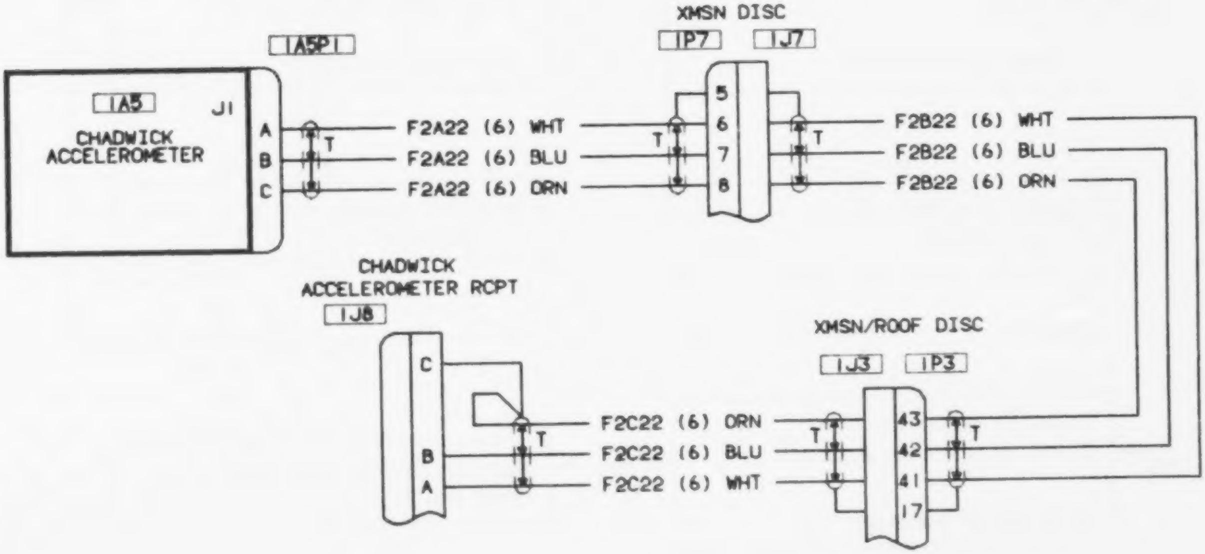
Trouble may be with the Chadwick test set.

Refer to higher level of maintenance.

Replace Chadwick accelerometer 1A5 (Task 5-3-1).

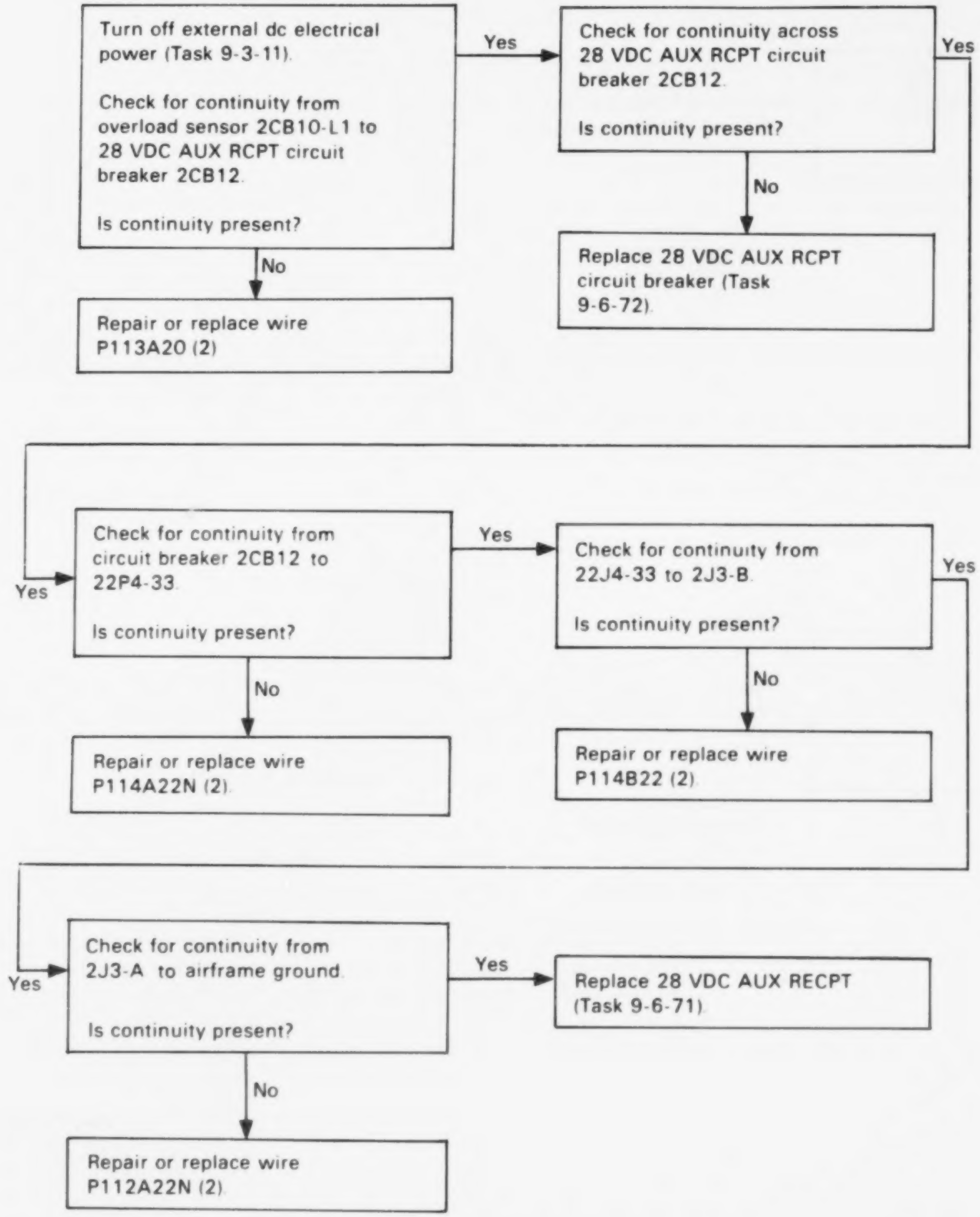
232. CHADWICK ROTOR BALANCING EQUIPMENT INOPERATIVE (CONT)


1G1P1
1G1
J1
CHADWICK MAG PICKUP
A
B
P
F3A22 (6) WHT
F3A22 (6) BLU
XMSN DISC
1P7
1J7
2
3
4
P
P
F3B22 (6) WHT
F3B22 (6) BLU
CHADWICK MAG PICKUP RCPT
1J9
A
B
P
F3C22 (6) BLU
F3C22 (6) WHT
XMSN/ROOF DISC
1J3
1P3
6
5
33
P
P

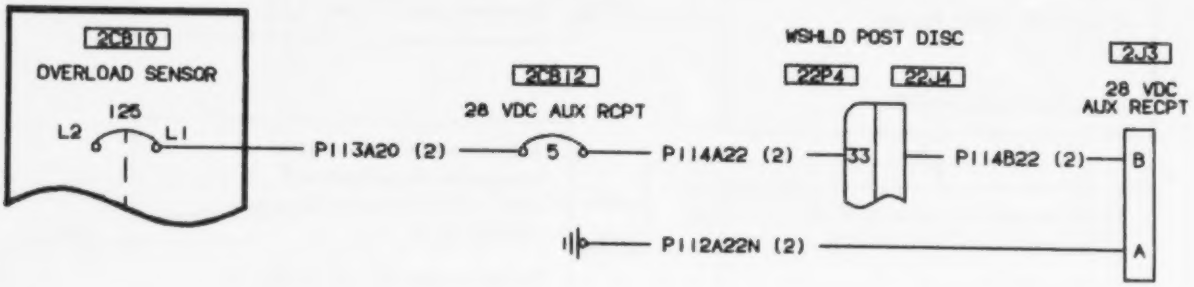

1A5P1
1A5
J1
CHADWICK ACCELEROMETER
A
B
C
T
F2A22 (6) WHT
F2A22 (6) BLU
F2A22 (6) ORN
XMSN DISC
1P7
1J7
5
6
7
8
T
T
F2B22 (6) WHT
F2B22 (6) BLU
F2B22 (6) ORN
CHADWICK ACCELEROMETER RCPT
1J8
C
B
A
T
F2C22 (6) ORN
F2C22 (6) BLU
F2C22 (6) WHT
XMSN/ROOF DISC
1J3
1P3
43
42
41
17
T
T

406475-208B

233. AUXILIARY 28 VDC RECEPTACLE WILL NOT SUPPLY VOLTAGE

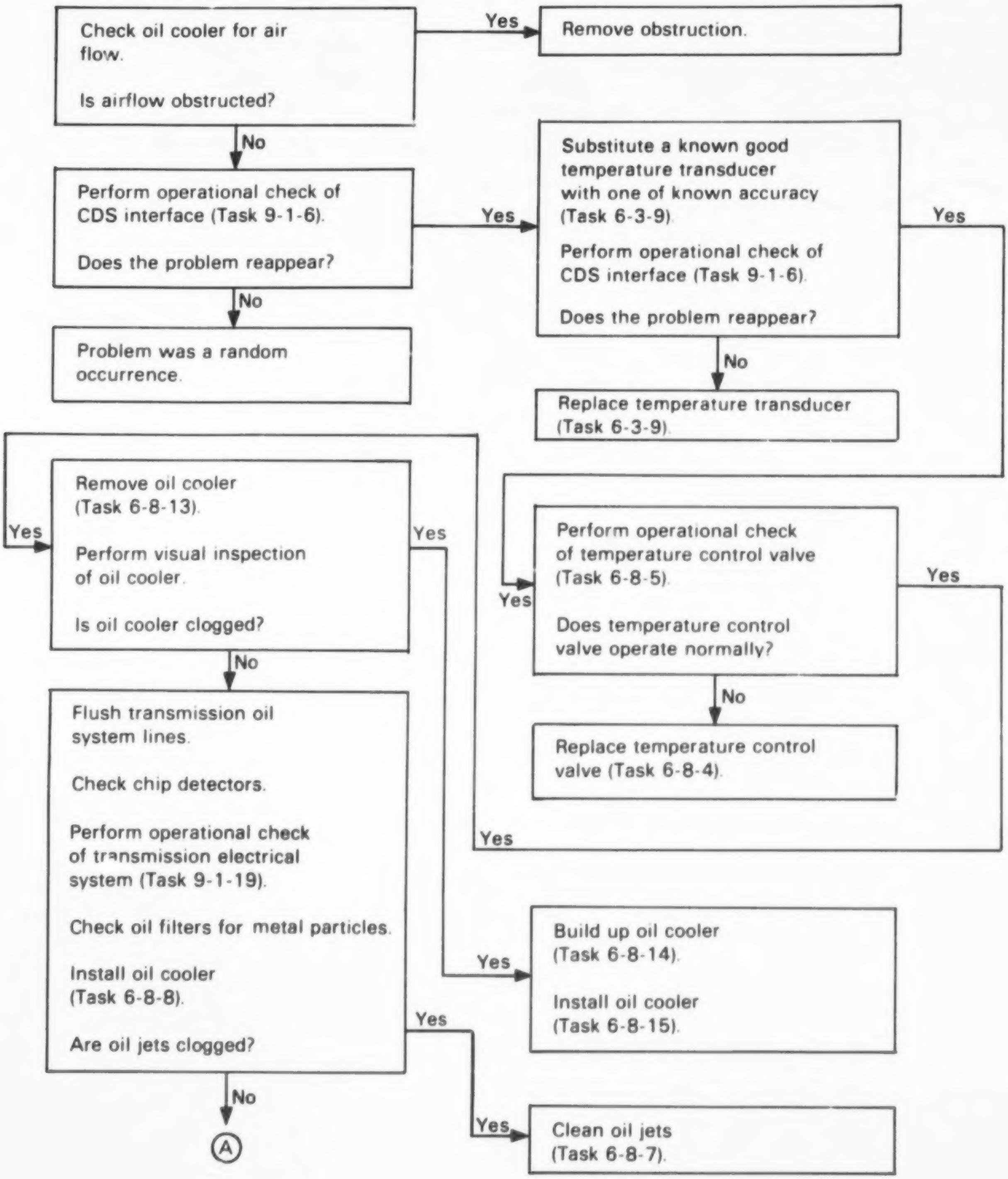

Turn off external dc electrical power (Task 9-3-11). Check for continuity from overload sensor 2CB10-L1 to 28 VDC AUX RCPT circuit breaker 2CB12. Is continuity present?
Yes
No
Repair or replace wire P113A20 (2)
Check for continuity across 28 VDC AUX RCPT circuit breaker 2CB12. Is continuity present?
Yes
No
Replace 28 VDC AUX RCPT circuit breaker (Task 9-6-72).
Yes
Check for continuity from circuit breaker 2CB12 to 22P4-33. Is continuity present?
Yes
No
Repair or replace wire P114A22N (2).
Check for continuity from 22J4-33 to 2J3-B. Is continuity present?
Yes
No
Repair or replace wire P114B22 (2).
Yes
Check for continuity from 2J3-A to airframe ground. Is continuity present?
Yes
No
Replace 28 VDC AUX RECPT (Task 9-6-71).
Repair or replace wire P112A22N (2).

233. AUXILIARY 28 VDC RECEPTACLE WILL NOT SUPPLY VOLTAGE (CONT)


2CB10
OVERLOAD SENSOR
125
L2
L1
P113A20 (2)
2CB12
28 VDC AUX RCPT
5
P114A22 (2)
WSHLD POST DISC
22P4
22J4
33
P114B22 (2)
2J3
28 VDC
AUX RECPT
B
A
P112A22N (2)

406475-207A

234. TRANSMISSION OIL CAUTION MESSAGE ON MFD AND TRANS OIL °C X 10 (MPD) READS ABOVE LIMIT



Check oil cooler for air flow.

Is airflow obstructed?

Remove obstruction.

Perform operational check of CDS interface (Task 9-1-6).

Does the problem reappear?

Problem was a random occurrence.

Substitute a known good temperature transducer with one of known accuracy (Task 6-3-9).

Perform operational check of CDS interface (Task 9-1-6).

Does the problem reappear?

Replace temperature transducer (Task 6-3-9).

Remove oil cooler (Task 6-8-13).

Perform visual inspection of oil cooler.

Is oil cooler clogged?

Perform operational check of temperature control valve (Task 6-8-5).

Does temperature control valve operate normally?

Replace temperature control valve (Task 6-8-4).

Flush transmission oil system lines.

Check chip detectors.

Perform operational check of transmission electrical system (Task 9-1-19).

Check oil filters for metal particles.

Install oil cooler (Task 6-8-8).

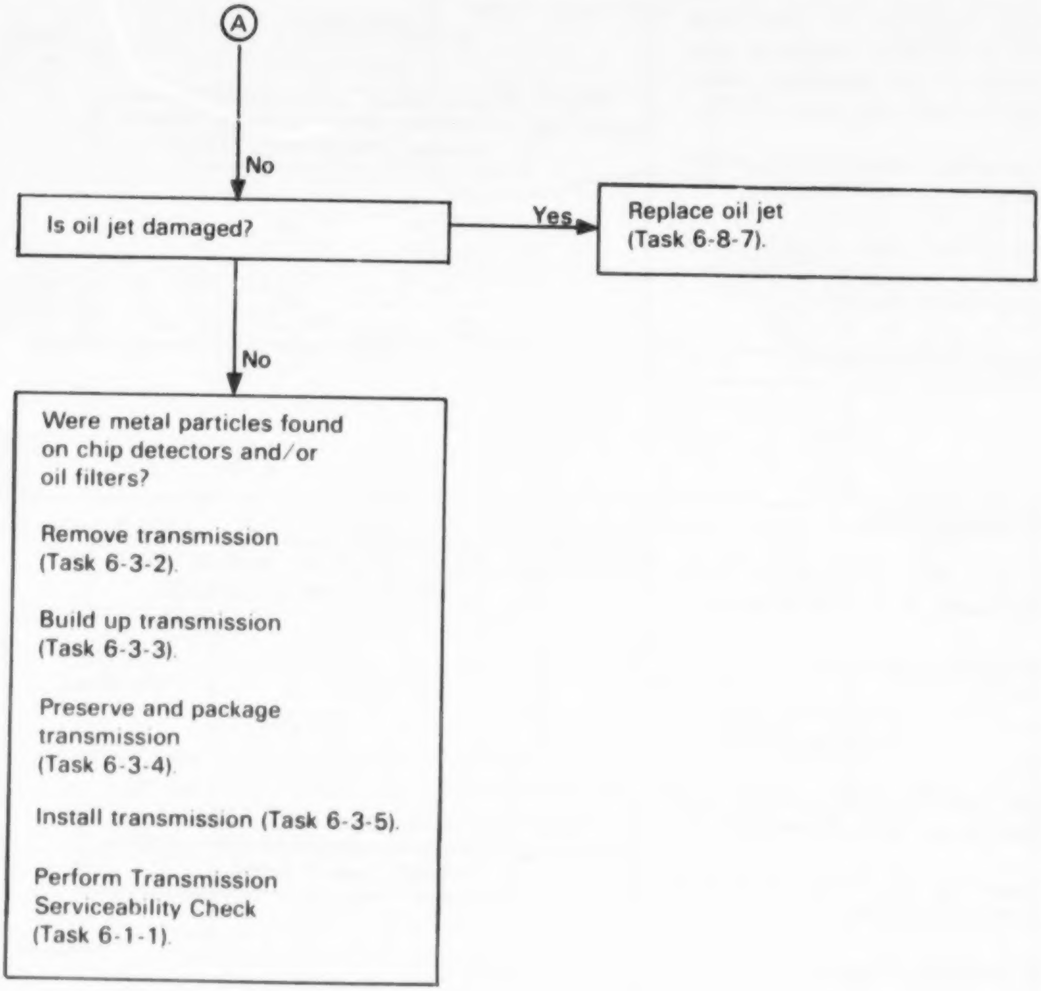
Are oil jets clogged?

Build up oil cooler (Task 6-8-14).

Install oil cooler (Task 6-8-15).

Clean oil jets (Task 6-8-7).

234. TRANSMISSION OIL TEMP CAUTION MESSAGE ON MFD AND TRANS OIL °C X 10 (MPD) READS ABOVE LIMIT (CONT)



Is oil jet damaged?

Replace oil jet (Task 6-8-7).

Were metal particles found on chip detectors and/or oil filters?

Remove transmission (Task 6-3-2).

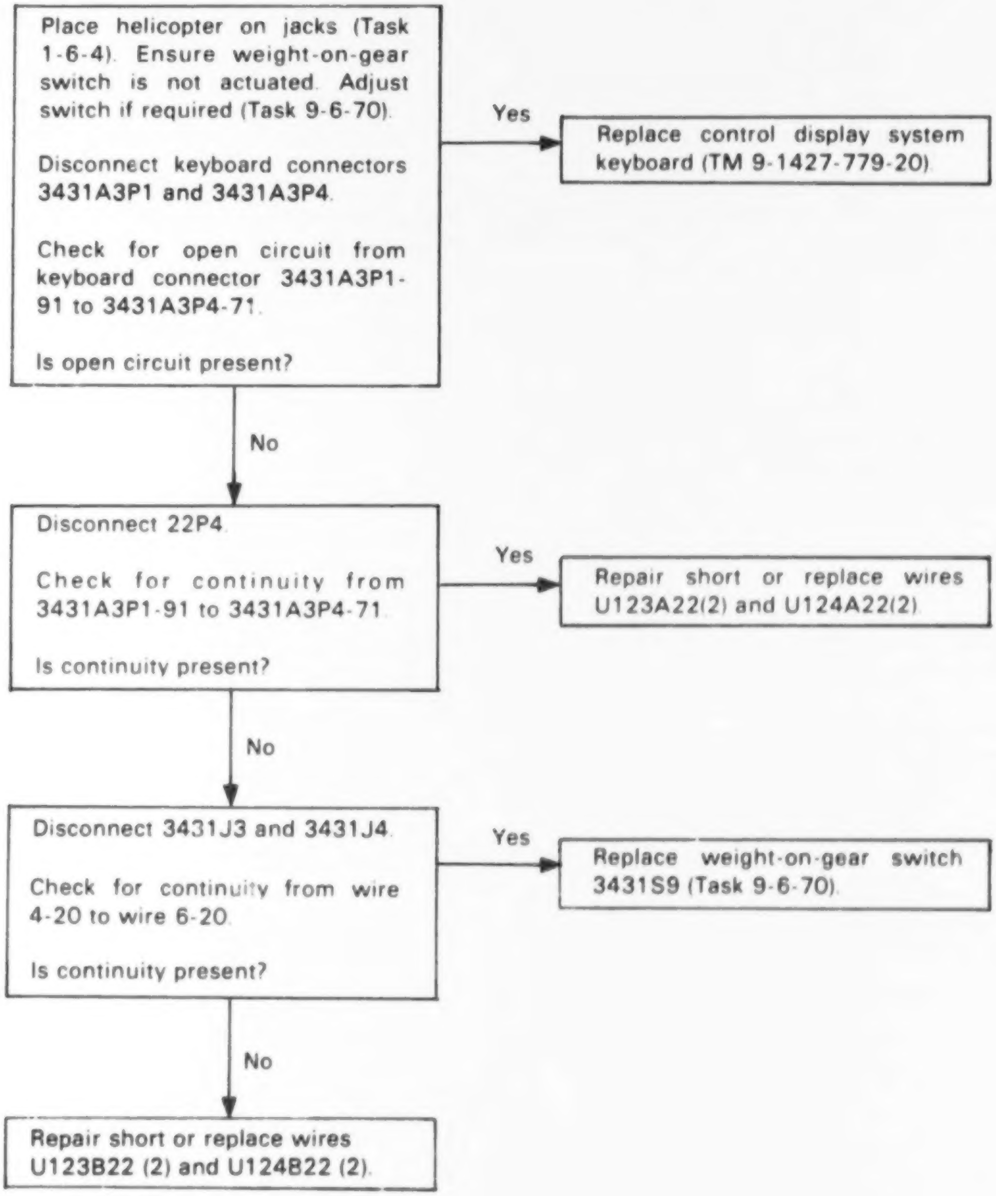
Build up transmission (Task 6-3-3).

Preserve and package transmission (Task 6-3-4).

Install transmission (Task 6-3-5).

Perform Transmission Serviceability Check (Task 6-1-1).

235. FDL MENU PAGE APPEARS IN FLIGHT



Place helicopter on jacks (Task 1-6-4). Ensure weight-on-gear switch is not actuated. Adjust switch if required (Task 9-6-70).

Disconnect keyboard connectors 3431A3P1 and 3431A3P4.

Check for open circuit from keyboard connector 3431A3P1-91 to 3431A3P4-71.

Is open circuit present?

Replace control display system keyboard (TM 9-1427-779-20).

Disconnect 22P4.

Check for continuity from 3431A3P1-91 to 3431A3P4-71.

Is continuity present?

Repair short or replace wires U123A22(2) and U124A22(2).

Disconnect 3431J3 and 3431J4.

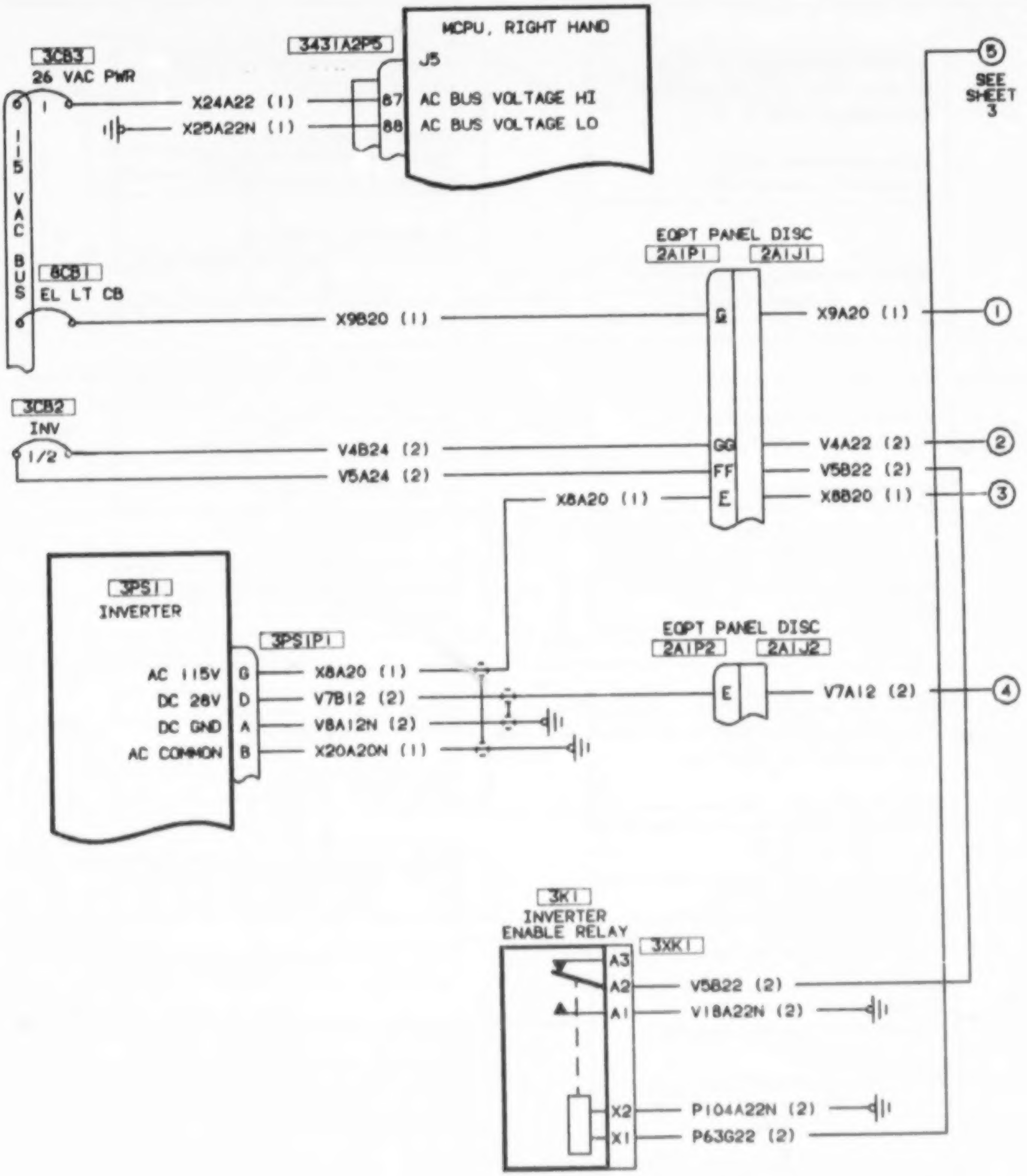
Check for continuity from wire 4-20 to wire 6-20.

Is continuity present?

Replace weight-on-gear switch 3431S9 (Task 9-6-70).

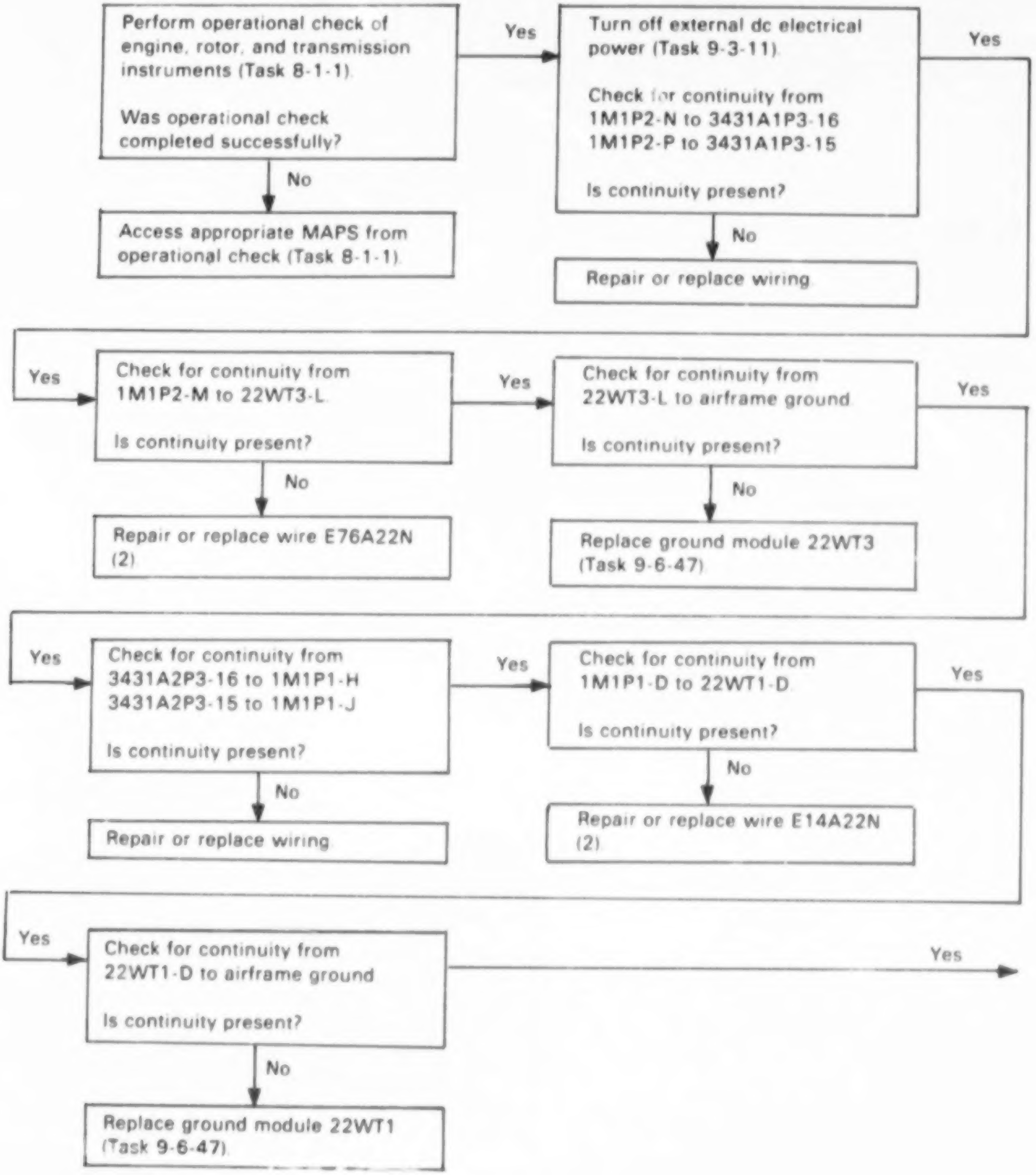
Repair short or replace wires U123B22 (2) and U124B22 (2).

235. FDL MENU PAGE APPEARS IN FLIGHT (CONT)

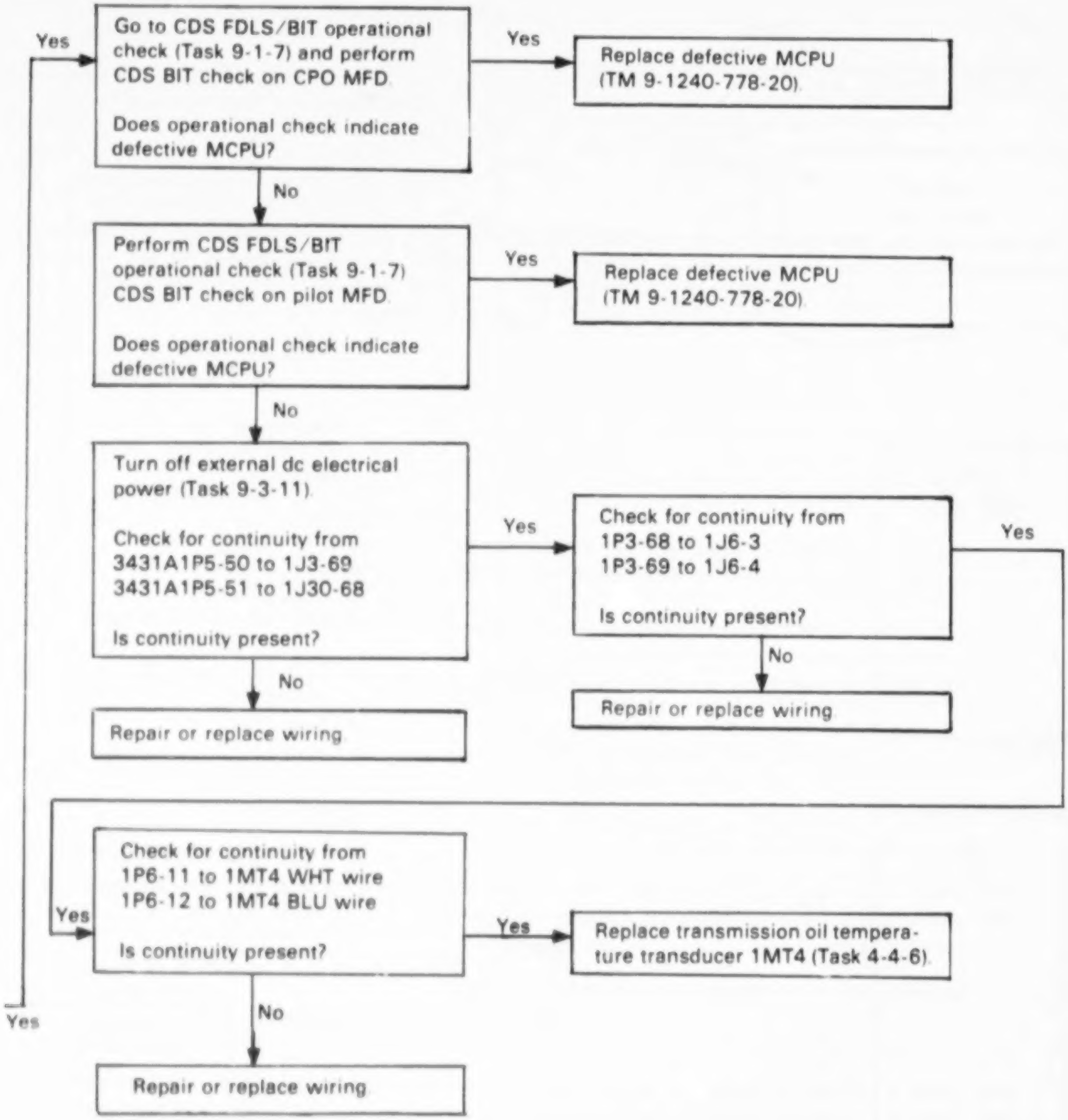

MCPU, RIGHT HAND
343IA2P5
J5
87 AC BUS VOLTAGE HI
88 AC BUS VOLTAGE LO
3CB3
26 VAC PWR
1
X24A22 (1)
X25A22N (1)
115 VAC BUS
8CB1
EL LT CB
X9B20 (1)
EQPT PANEL DISC
2A1P1
2A1J1
G
X9A20 (1)
①
⑤
SEE SHEET 3
3CB2
INV
1/2
V4B24 (2)
V5A24 (2)
GG
FF
E
X8A20 (1)
V4A22 (2)
②
V5B22 (2)
X8B20 (1)
③
3PS1
INVERTER
3PS1P1
AC 115V G
DC 28V D
DC GND A
AC COMMON B
X8A20 (1)
V7B12 (2)
V8A12N (2)
X20A20N (1)
EQPT PANEL DISC
2A1P2
2A1J2
E
V7A12 (2)
④
3K1
INVERTER ENABLE RELAY
3XK1
A3
A2
A1
V5B22 (2)
V18A22N (2)
X2
X1
P104A22N (2)
P63G22 (2)

406475-233-1

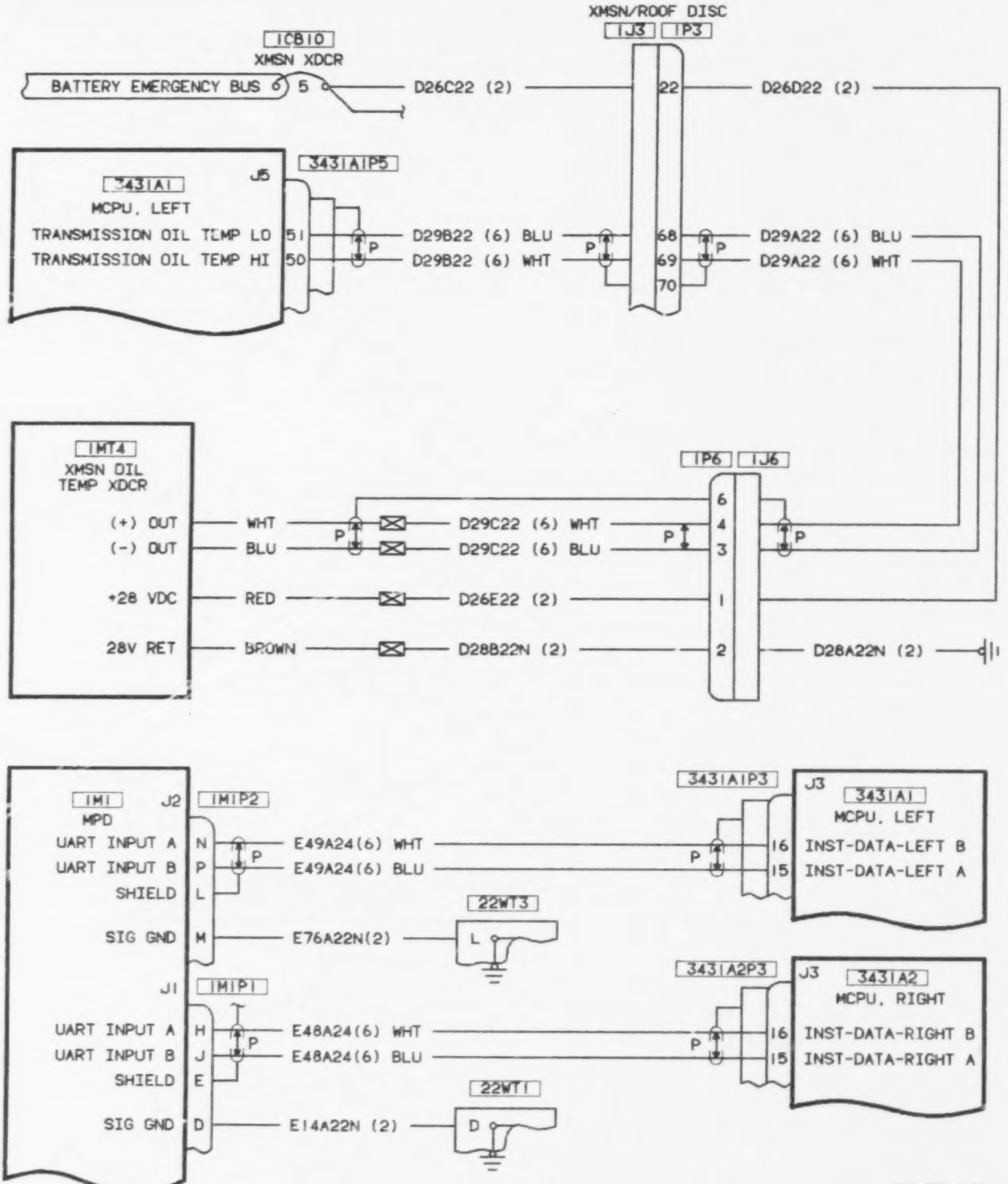
236. TRANSMISSION OIL TEMPERATURE DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON)


Perform operational check of engine, rotor, and transmission instruments (Task 8-1-1).
Was operational check completed successfully?
Yes
No
Access appropriate MAPS from operational check (Task 8-1-1).
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 1M1P2-N to 3431A1P3-16 1M1P2-P to 3431A1P3-15
Is continuity present?
Yes
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P2-M to 22WT3-L.
Is continuity present?
No
Repair or replace wire E76A22N (2).
Yes
Check for continuity from 22WT3-L to airframe ground.
Is continuity present?
No
Replace ground module 22WT3 (Task 9-6-47).
Yes
Yes
Check for continuity from 3431A2P3-16 to 1M1P1-H 3431A2P3-15 to 1M1P1-J
Is continuity present?
No
Repair or replace wiring.
Yes
Check for continuity from 1M1P1-D to 22WT1-D.
Is continuity present?
No
Repair or replace wire E14A22N (2).
Yes
Yes
Check for continuity from 22WT1-D to airframe ground.
Is continuity present?
Yes
No
Replace ground module 22WT1 (Task 9-6-47).

236. TRANSMISSION OIL TEMPERATURE DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

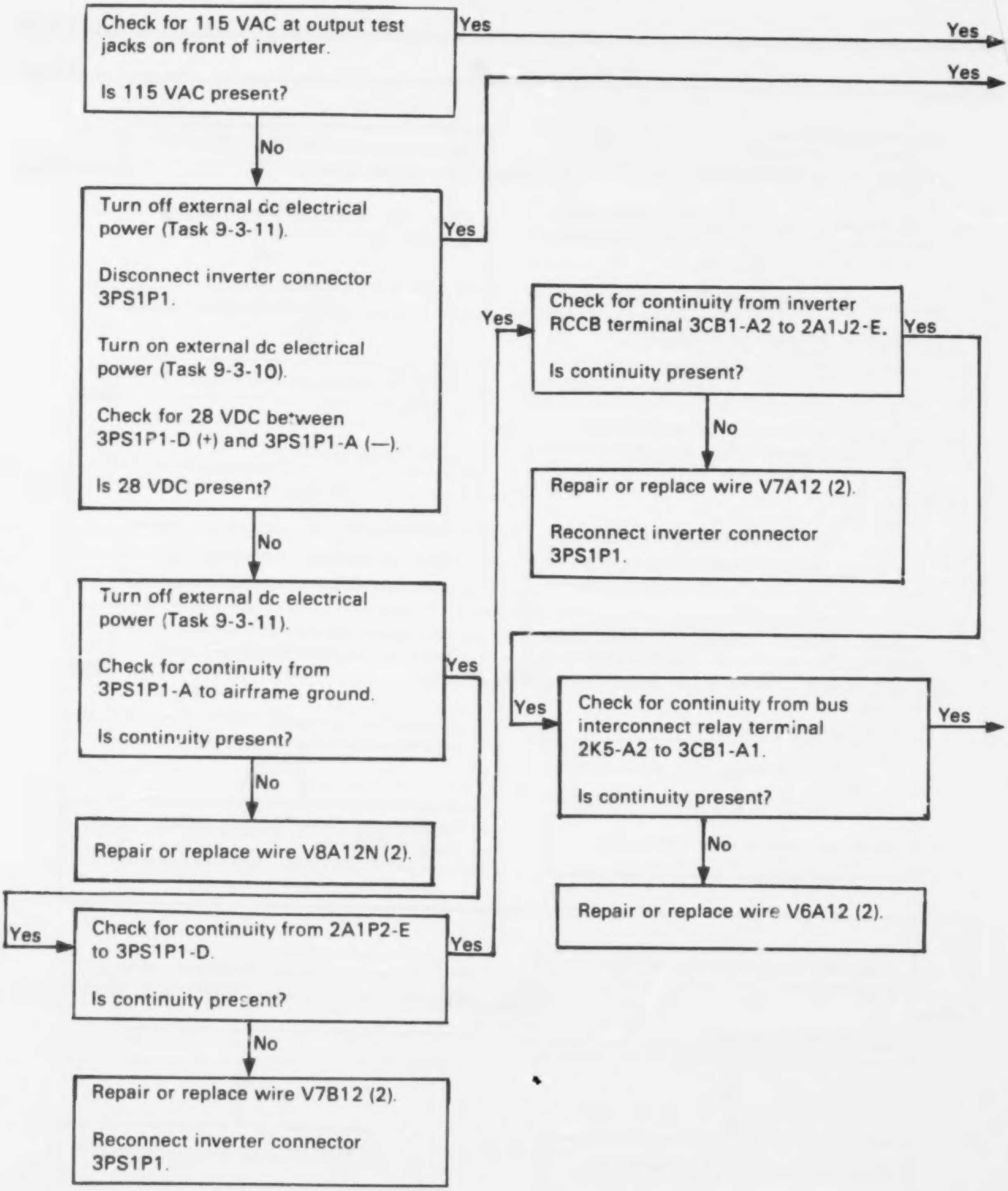

Yes
Go to CDS FDLS/BIT operational check (Task 9-1-7) and perform CDS BIT check on CPO MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Perform CDS FDLS/BIT operational check (Task 9-1-7) CDS BIT check on pilot MFD.
Does operational check indicate defective MCPU?
Yes
Replace defective MCPU (TM 9-1240-778-20).
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3431A1P5-50 to 1J3-69 3431A1P5-51 to 1J30-68
Is continuity present?
Yes
Check for continuity from 1P3-68 to 1J6-3 1P3-69 to 1J6-4
Is continuity present?
Yes
No
Repair or replace wiring.
No
Repair or replace wiring.
Yes
Check for continuity from 1P6-11 to 1MT4 WHT wire 1P6-12 to 1MT4 BLU wire
Is continuity present?
Yes
Replace transmission oil temperature transducer 1MT4 (Task 4-4-6).
No
Repair or replace wiring.
Yes

236. TRANSMISSION OIL TEMPERATURE DOES NOT INDICATE IN GREEN RANGE (HELICOPTER AT FLIGHT IDLE AND DC GENERATOR ON) (CONT)

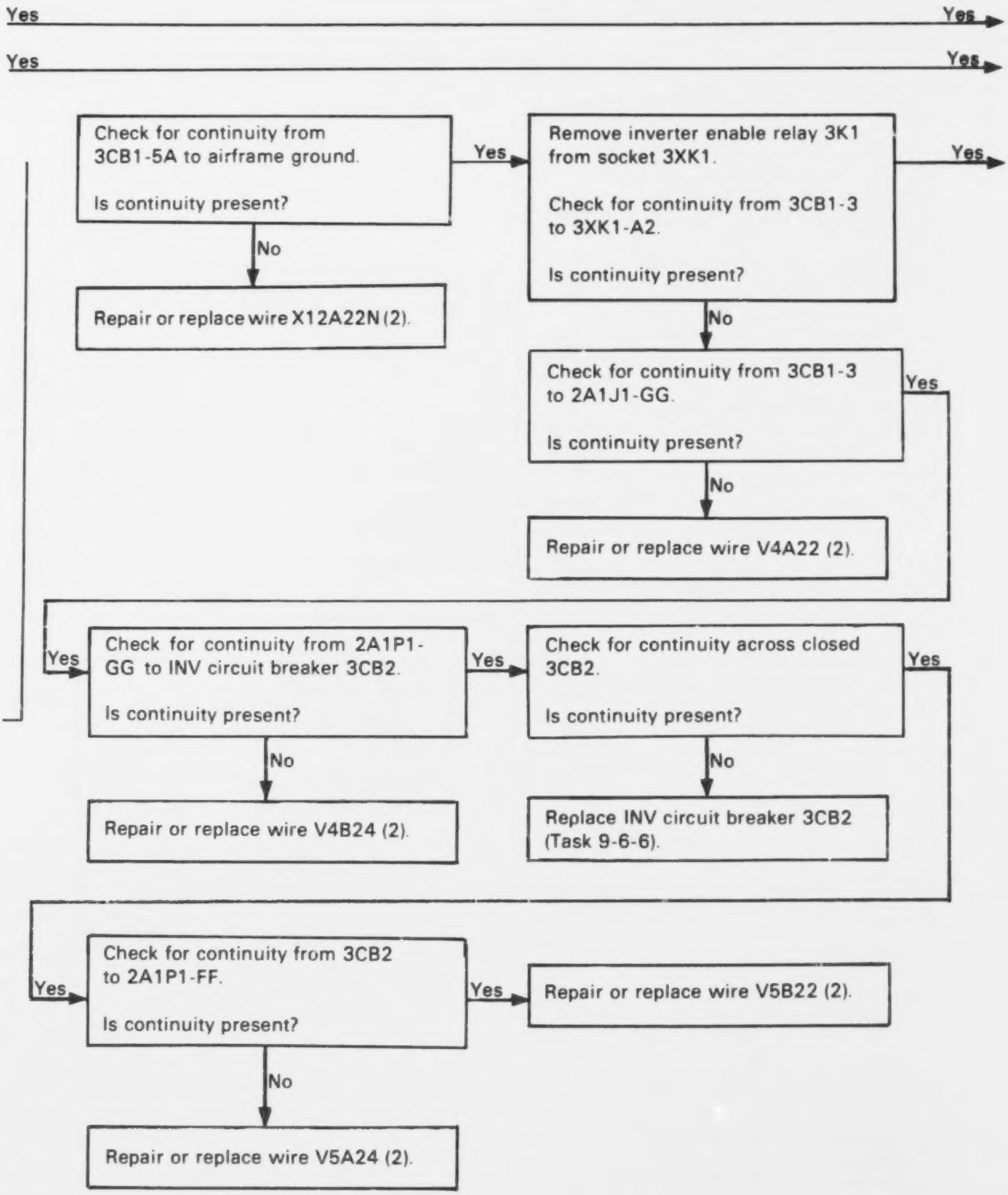

XMSN/ROOF DISC
1J3
1P3
1CB10
XMSN XDCR
BATTERY EMERGENCY BUS
6
5
D26C22 (2)
22
D26D22 (2)
3431A1P5
3431A1
J5
MCPU, LEFT
TRANSMISSION OIL TEMP LO
TRANSMISSION OIL TEMP HI
51
50
D29B22 (6) BLU
D29B22 (6) WHT
P
68
69
70
D29A22 (6) BLU
D29A22 (6) WHT
1MT4
XMSN OIL
TEMP XDCR
(+) OUT
(-) OUT
+28 VDC
28V RET
WHT
BLU
RED
BROWN
D29C22 (6) WHT
D29C22 (6) BLU
D26E22 (2)
D28B22N (2)
1P6
1J6
6
4
3
1
2
D28A22N (2)
1M1
J2
1M1P2
MPD
UART INPUT A
UART INPUT B
SHIELD
SIG GND
N
P
L
M
E49A24(6) WHT
E49A24(6) BLU
E76A22N(2)
22WT3
L
3431A1P3
J3
3431A1
MCPU, LEFT
16
15
INST-DATA-LEFT B
INST-DATA-LEFT A
J1
1M1P1
UART INPUT A
UART INPUT B
SHIELD
SIG GND
H
J
E
D
E48A24(6) WHT
E48A24(6) BLU
E14A22N (2)
22WT1
D
3431A2P3
J3
3431A2
MCPU, RIGHT
16
15
INST-DATA-RIGHT B
INST-DATA-RIGHT A

406475-232

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD


Check for 115 VAC at output test jacks on front of inverter.
Is 115 VAC present?
Yes
Yes
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Disconnect inverter connector 3PS1P1.
Turn on external dc electrical power (Task 9-3-10).
Check for 28 VDC between 3PS1P1-D (+) and 3PS1P1-A (—).
Is 28 VDC present?
Yes
No
Turn off external dc electrical power (Task 9-3-11).
Check for continuity from 3PS1P1-A to airframe ground.
Is continuity present?
Yes
No
Repair or replace wire V8A12N (2).
Yes
Check for continuity from 2A1P2-E to 3PS1P1-D.
Is continuity present?
Yes
No
Repair or replace wire V7B12 (2).
Reconnect inverter connector 3PS1P1.
Yes
Check for continuity from inverter RCCB terminal 3CB1-A2 to 2A1J2-E.
Is continuity present?
Yes
No
Repair or replace wire V7A12 (2).
Reconnect inverter connector 3PS1P1.
Yes
Check for continuity from bus interconnect relay terminal 2K5-A2 to 3CB1-A1.
Is continuity present?
Yes
No
Repair or replace wire V6A12 (2).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Check for continuity from 3CB1-5A to airframe ground.

Is continuity present?

Repair or replace wire X12A22N (2).

Remove inverter enable relay 3K1 from socket 3XK1.

Check for continuity from 3CB1-3 to 3XK1-A2.

Is continuity present?

Check for continuity from 3CB1-3 to 2A1J1-GG.

Is continuity present?

Repair or replace wire V4A22 (2).

Check for continuity from 2A1P1-GG to INV circuit breaker 3CB2.

Is continuity present?

Repair or replace wire V4B24 (2).

Check for continuity across closed 3CB2.

Is continuity present?

Replace INV circuit breaker 3CB2 (Task 9-6-6).

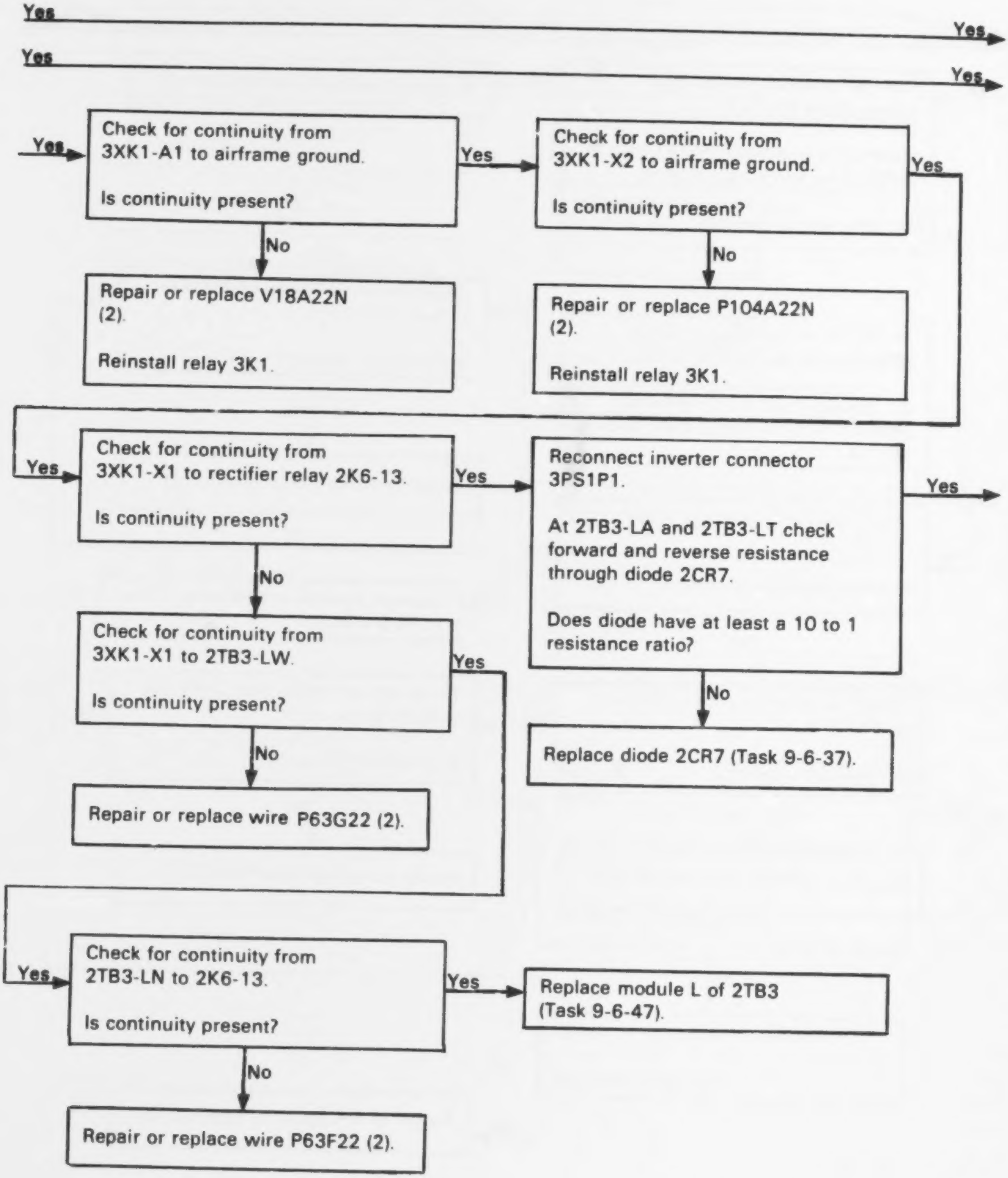
Check for continuity from 3CB2 to 2A1P1-FF.

Is continuity present?

Repair or replace wire V5B22 (2).

Repair or replace wire V5A24 (2).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Check for continuity from 3XK1-A1 to airframe ground.

Is continuity present?

Repair or replace V18A22N (2).

Reinstall relay 3K1.

Check for continuity from 3XK1-X2 to airframe ground.

Is continuity present?

Repair or replace P104A22N (2).

Reinstall relay 3K1.

Check for continuity from 3XK1-X1 to rectifier relay 2K6-13.

Is continuity present?

Reconnect inverter connector 3PS1P1.

At 2TB3-LA and 2TB3-LT check forward and reverse resistance through diode 2CR7.

Does diode have at least a 10 to 1 resistance ratio?

Check for continuity from 3XK1-X1 to 2TB3-LW.

Is continuity present?

Replace diode 2CR7 (Task 9-6-37).

Repair or replace wire P63G22 (2).

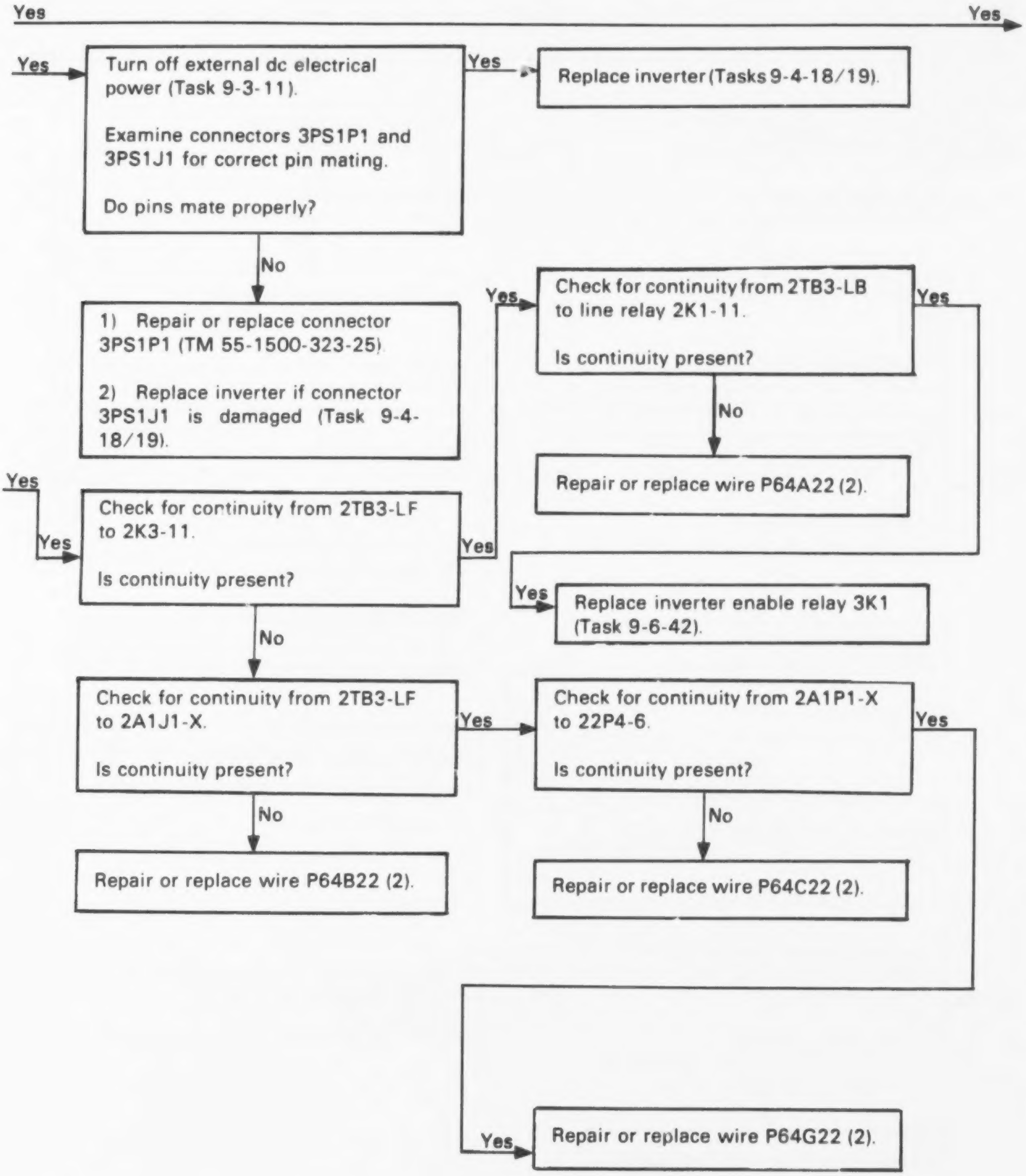
Check for continuity from 2TB3-LN to 2K6-13.

Is continuity present?

Replace module L of 2TB3 (Task 9-6-47).

Repair or replace wire P63F22 (2).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Turn off external dc electrical power (Task 9-3-11).

Examine connectors 3PS1P1 and 3PS1J1 for correct pin mating.

Do pins mate properly?

Replace inverter (Tasks 9-4-18/19).

1) Repair or replace connector 3PS1P1 (TM 55-1500-323-25).

2) Replace inverter if connector 3PS1J1 is damaged (Task 9-4-18/19).

Check for continuity from 2TB3-LB to line relay 2K1-11.

Is continuity present?

Repair or replace wire P64A22 (2).

Check for continuity from 2TB3-LF to 2K3-11.

Is continuity present?

Replace inverter enable relay 3K1 (Task 9-6-42).

Check for continuity from 2TB3-LF to 2A1J1-X.

Is continuity present?

Check for continuity from 2A1P1-X to 22P4-6.

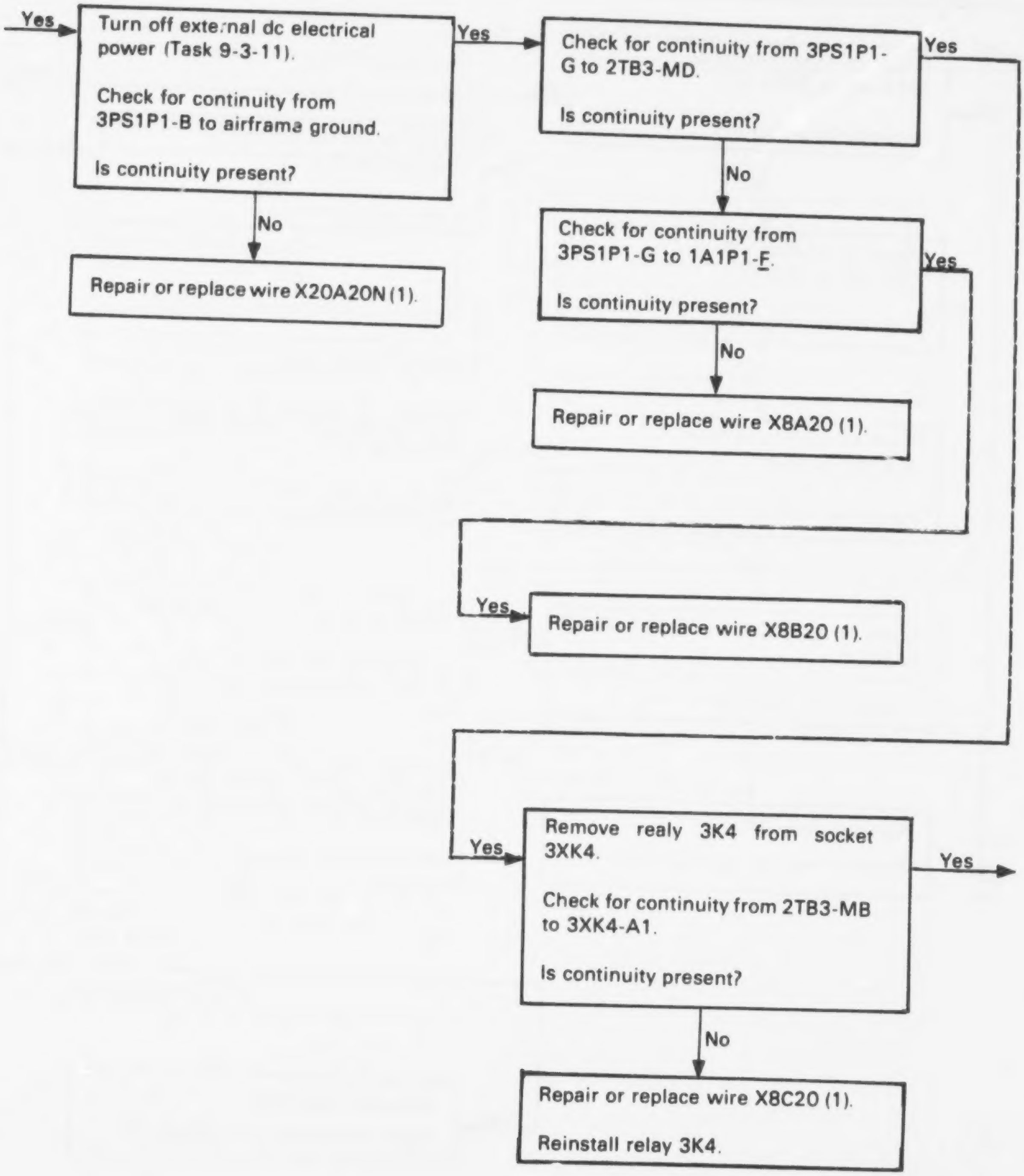
Is continuity present?

Repair or replace wire P64B22 (2).

Repair or replace wire P64C22 (2).

Repair or replace wire P64G22 (2).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Turn off external dc electrical power (Task 9-3-11).

Check for continuity from 3PS1P1-B to airframa ground.

Is continuity present?

Repair or replace wire X20A20N (1).

Check for continuity from 3PS1P1-G to 2TB3-MD.

Is continuity present?

Check for continuity from 3PS1P1-G to 1A1P1-F.

Is continuity present?

Repair or replace wire X8A20 (1).

Repair or replace wire X8B20 (1).

Remove realy 3K4 from socket 3XK4.

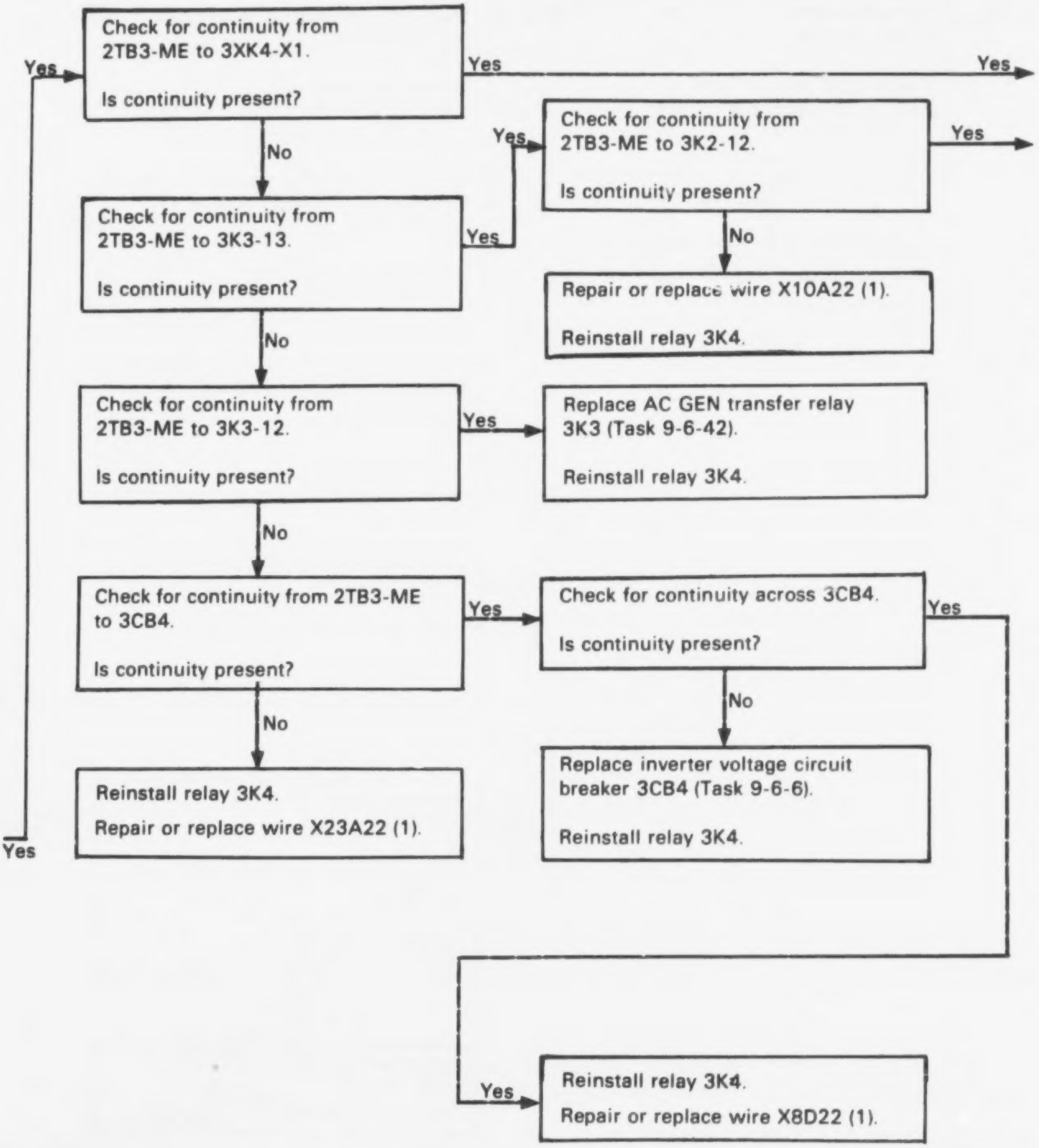
Check for continuity from 2TB3-MB to 3XK4-A1.

Is continuity present?

Repair or replace wire X8C20 (1).

Reinstall relay 3K4.

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Check for continuity from 2TB3-ME to 3XK4-X1.

Is continuity present?

Check for continuity from 2TB3-ME to 3K3-13.

Is continuity present?

Check for continuity from 2TB3-ME to 3K2-12.

Is continuity present?

Repair or replace wire X10A22 (1).

Reinstall relay 3K4.

Check for continuity from 2TB3-ME to 3K3-12.

Is continuity present?

Replace AC GEN transfer relay 3K3 (Task 9-6-42).

Reinstall relay 3K4.

Check for continuity from 2TB3-ME to 3CB4.

Is continuity present?

Check for continuity across 3CB4.

Is continuity present?

Reinstall relay 3K4.

Repair or replace wire X23A22 (1).

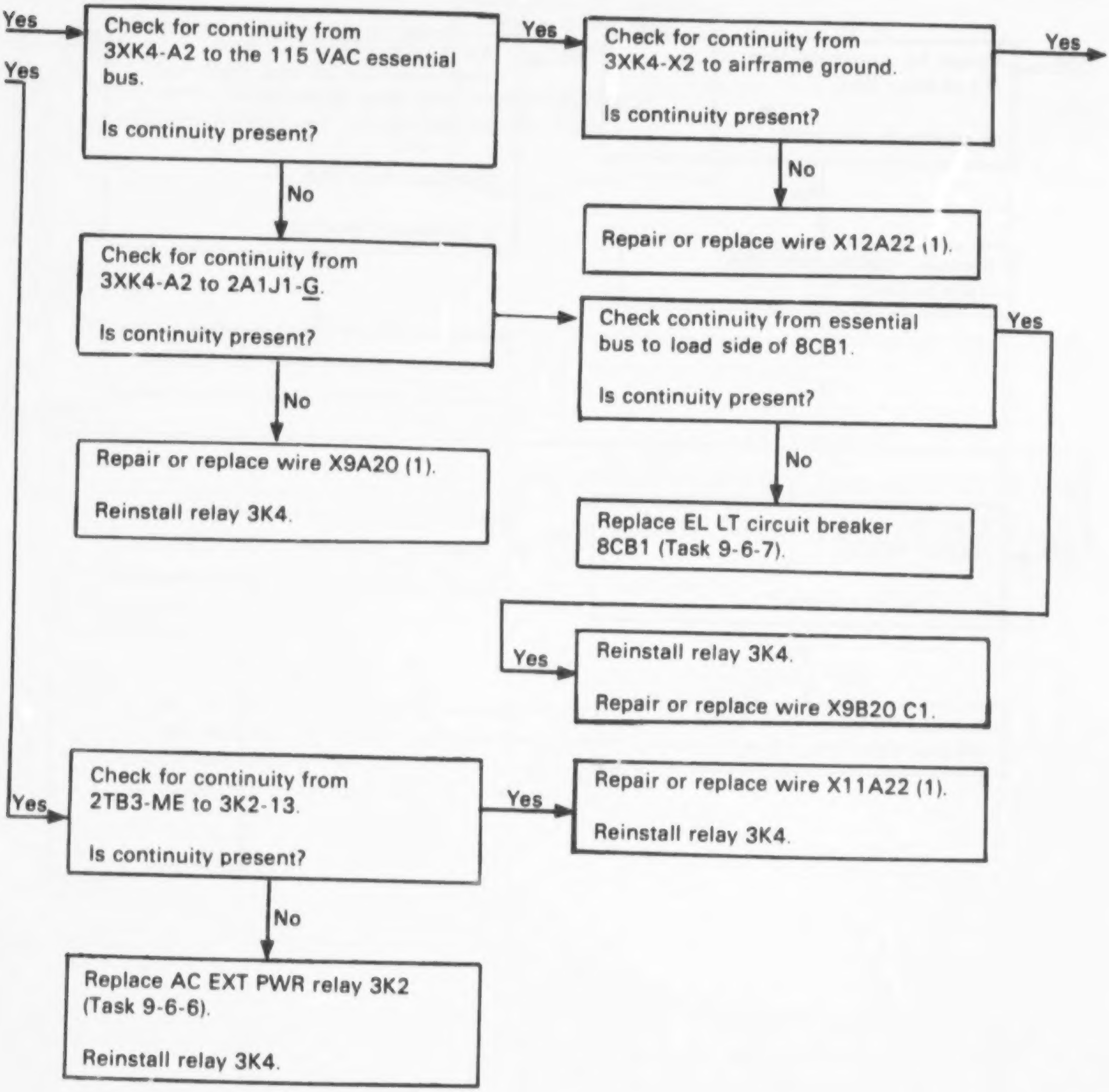
Replace inverter voltage circuit breaker 3CB4 (Task 9-6-6).

Reinstall relay 3K4.

Reinstall relay 3K4.

Repair or replace wire X8D22 (1).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Check for continuity from 3XK4-A2 to the 115 VAC essential bus.

Is continuity present?

Check for continuity from 3XK4-X2 to airframe ground.

Is continuity present?

Repair or replace wire X12A22 (1).

Check for continuity from 3XK4-A2 to 2A1J1-G.

Is continuity present?

Check continuity from essential bus to load side of 8CB1.

Is continuity present?

Repair or replace wire X9A20 (1).

Reinstall relay 3K4.

Replace EL LT circuit breaker 8CB1 (Task 9-6-7).

Reinstall relay 3K4.

Repair or replace wire X9B20 C1.

Check for continuity from 2TB3-ME to 3K2-13.

Is continuity present?

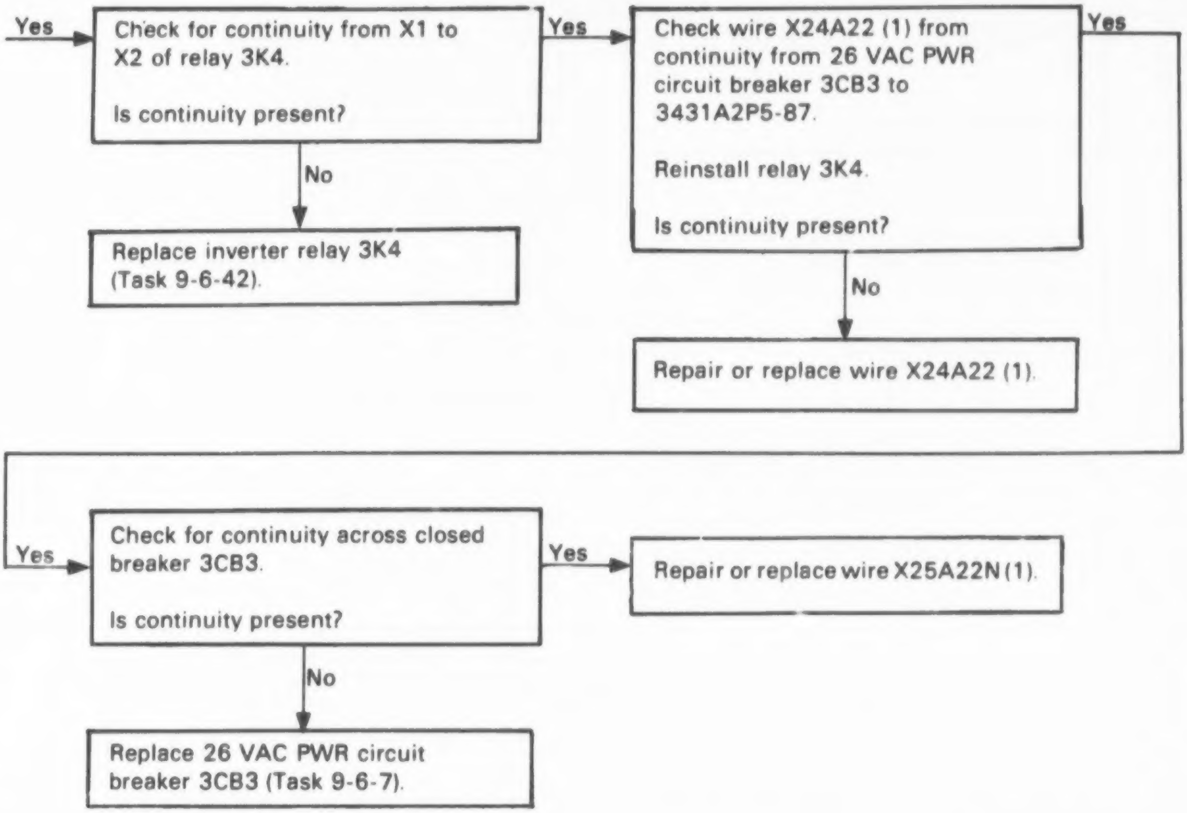
Repair or replace wire X11A22 (1).

Reinstall relay 3K4.

Replace AC EXT PWR relay 3K2 (Task 9-6-6).

Reinstall relay 3K4.

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)



Check for continuity from X1 to X2 of relay 3K4.

Is continuity present?

Replace inverter relay 3K4 (Task 9-6-42).

Check wire X24A22 (1) from continuity from 26 VAC PWR circuit breaker 3CB3 to 3431A2P5-87.

Reinstall relay 3K4.

Is continuity present?

Repair or replace wire X24A22 (1).

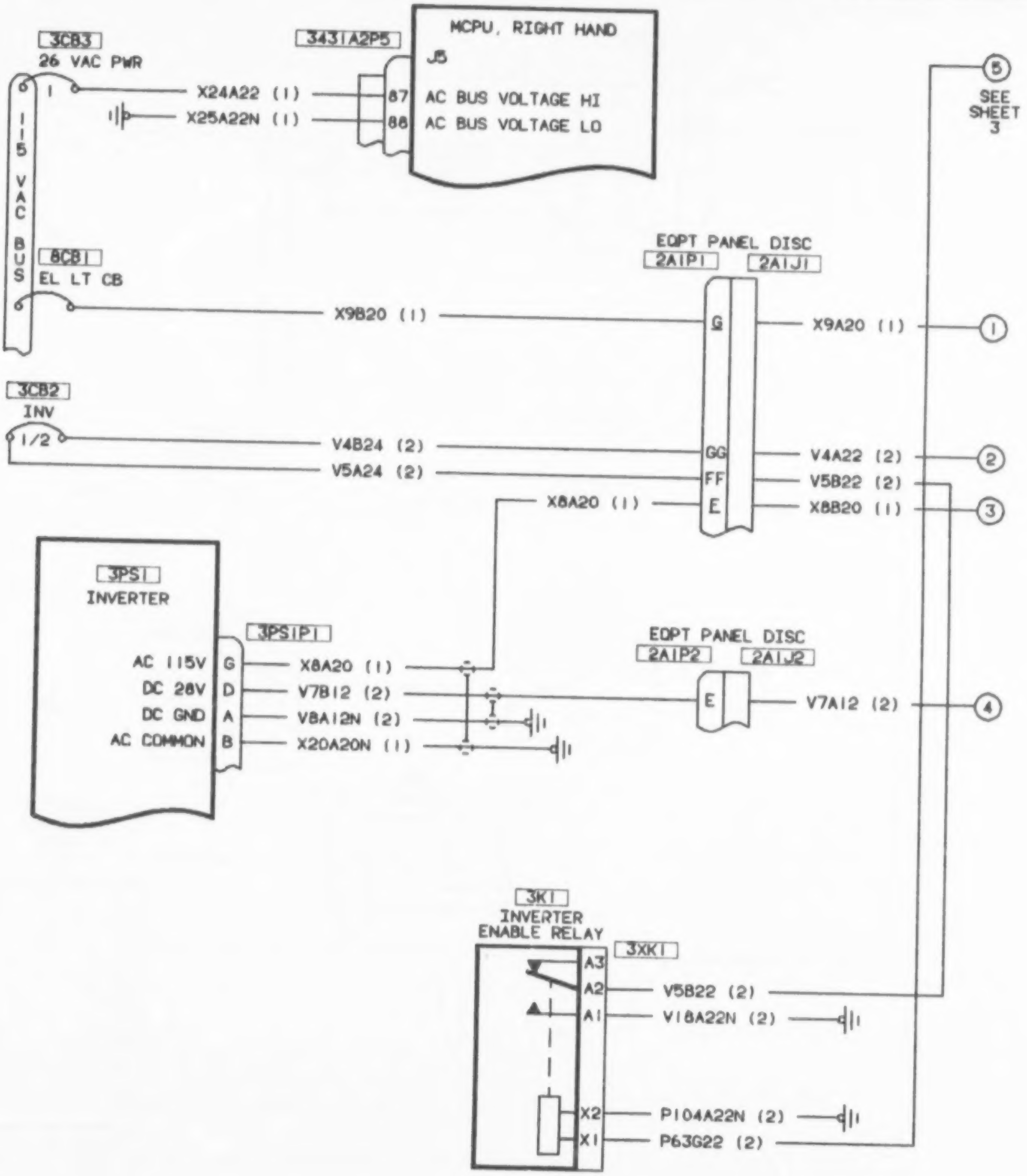
Check for continuity across closed breaker 3CB3.

Is continuity present?

Repair or replace wire X25A22N (1).

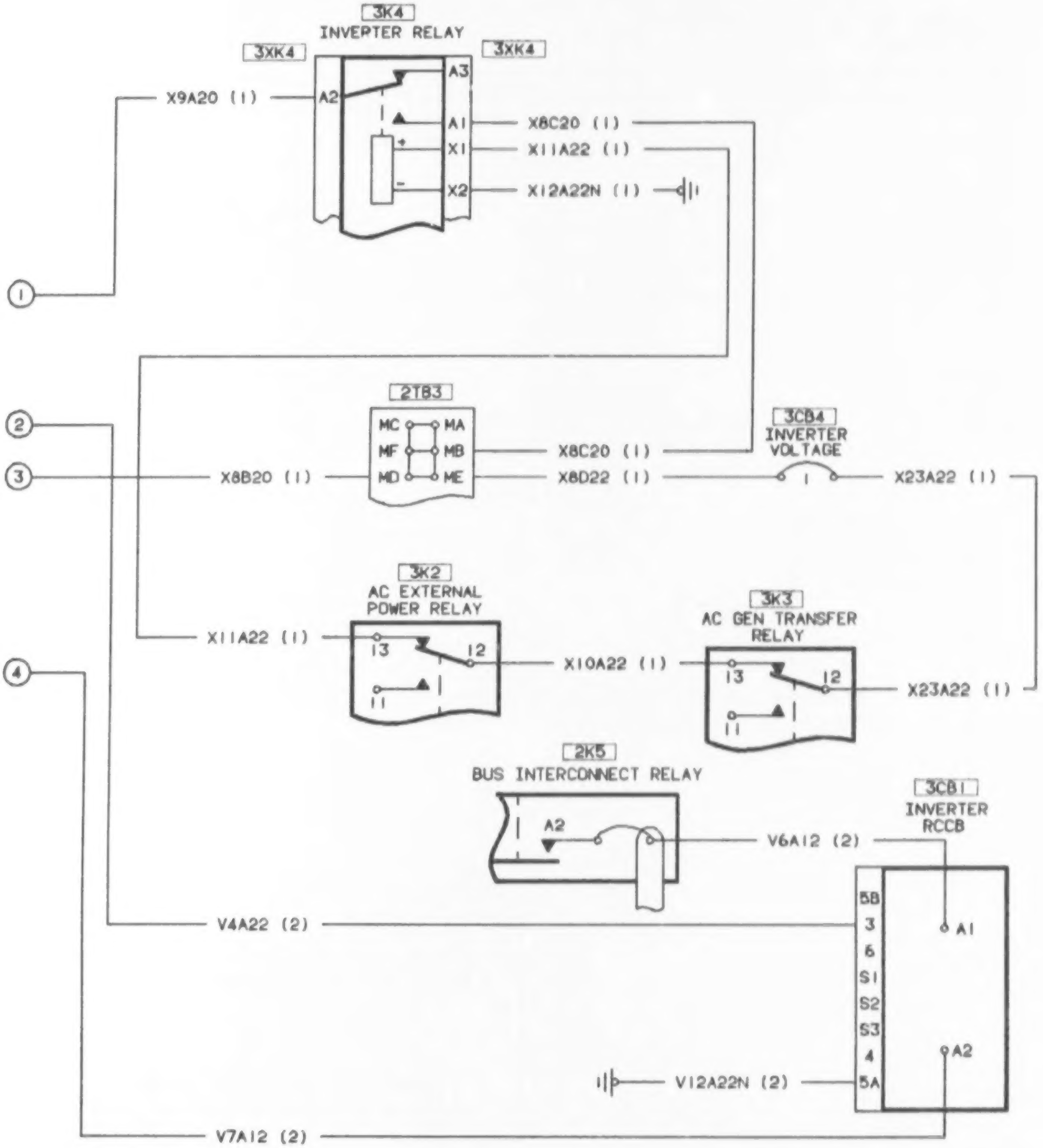
Replace 26 VAC PWR circuit breaker 3CB3 (Task 9-6-7).

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)


3CB3
26 VAC PWR
1
X24A22 (1)
X25A22N (1)
3431A2P5
MCPU, RIGHT HAND
J5
87 AC BUS VOLTAGE HI
88 AC BUS VOLTAGE LO
115 VAC BUS
8CB1
EL LT CB
X9B20 (1)
EQPT PANEL DISC
2A1P1
2A1J1
G
X9A20 (1)
5
SEE SHEET 3
1
3CB2
INV
1/2
V4B24 (2)
V5A24 (2)
GG
FF
E
V4A22 (2)
V5B22 (2)
X8A20 (1)
X8B20 (1)
2
3
3PS1
INVERTER
3PS1P1
AC 115V G
DC 28V D
DC GND A
AC COMMON B
X8A20 (1)
V7B12 (2)
V8A12N (2)
X20A20N (1)
EQPT PANEL DISC
2A1P2
2A1J2
E
V7A12 (2)
4
3K1
INVERTER ENABLE RELAY
3XK1
A3
A2
A1
X2
X1
V5B22 (2)
V18A22N (2)
P104A22N (2)
P63G22 (2)

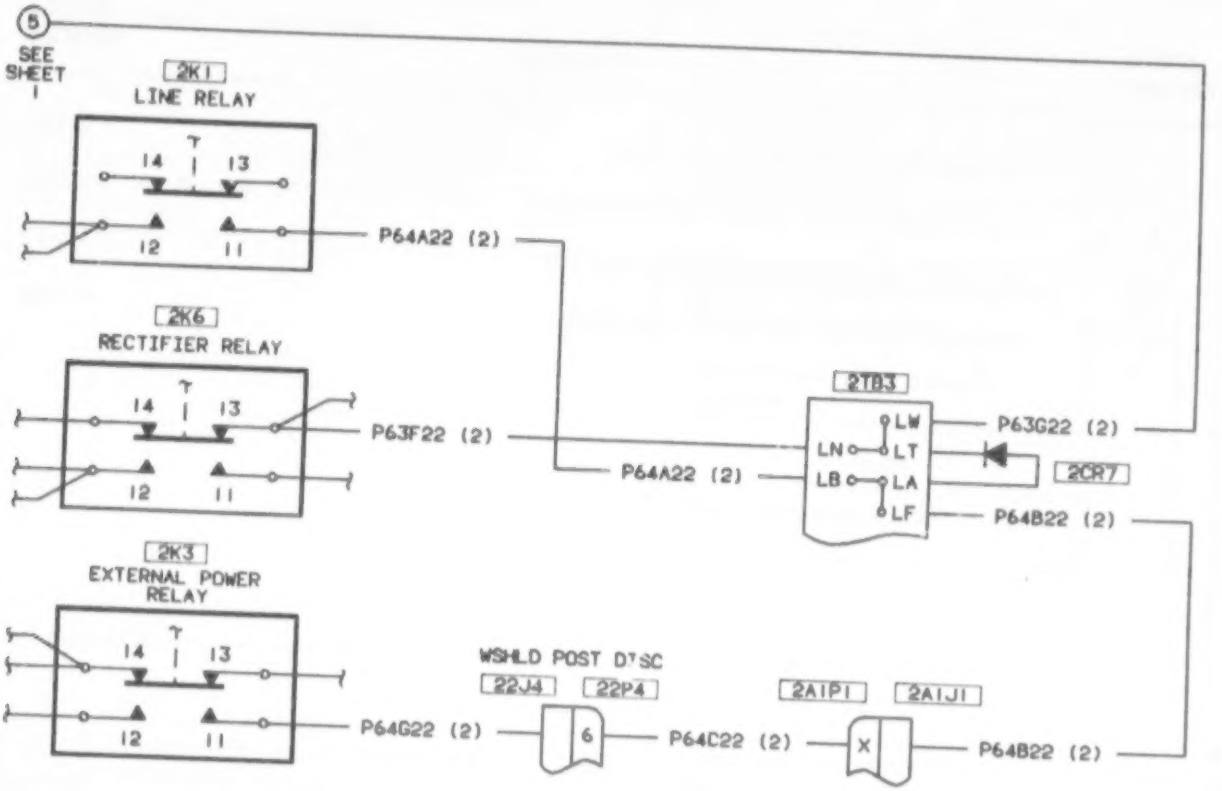
405475-233-1

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)


3K4
INVERTER RELAY
3XK4
3XK4
X9A20 (1)
A2
A3
A1
X1
X2
X8C20 (1)
X11A22 (1)
X12A22N (1)
①
②
③
④
2TB3
MC
MA
MF
MB
MD
ME
X8B20 (1)
X8C20 (1)
X8D22 (1)
3CB4
INVERTER VOLTAGE
1
X23A22 (1)
3K2
AC EXTERNAL POWER RELAY
X11A22 (1)
13
12
11
X10A22 (1)
3K3
AC GEN TRANSFER RELAY
13
12
11
X23A22 (1)
2K5
BUS INTERCONNECT RELAY
A2
V6A12 (2)
3CB1
INVERTER RCCB
5B
3
6
S1
S2
S3
4
5A
A1
A2
V4A22 (2)
V12A22N (2)
V7A12 (2)

406475-233-2

237. INV FAIL MESSAGE DISPLAYED ON MFD, 115 NOT DISPLAYED ON MPD (CONT)

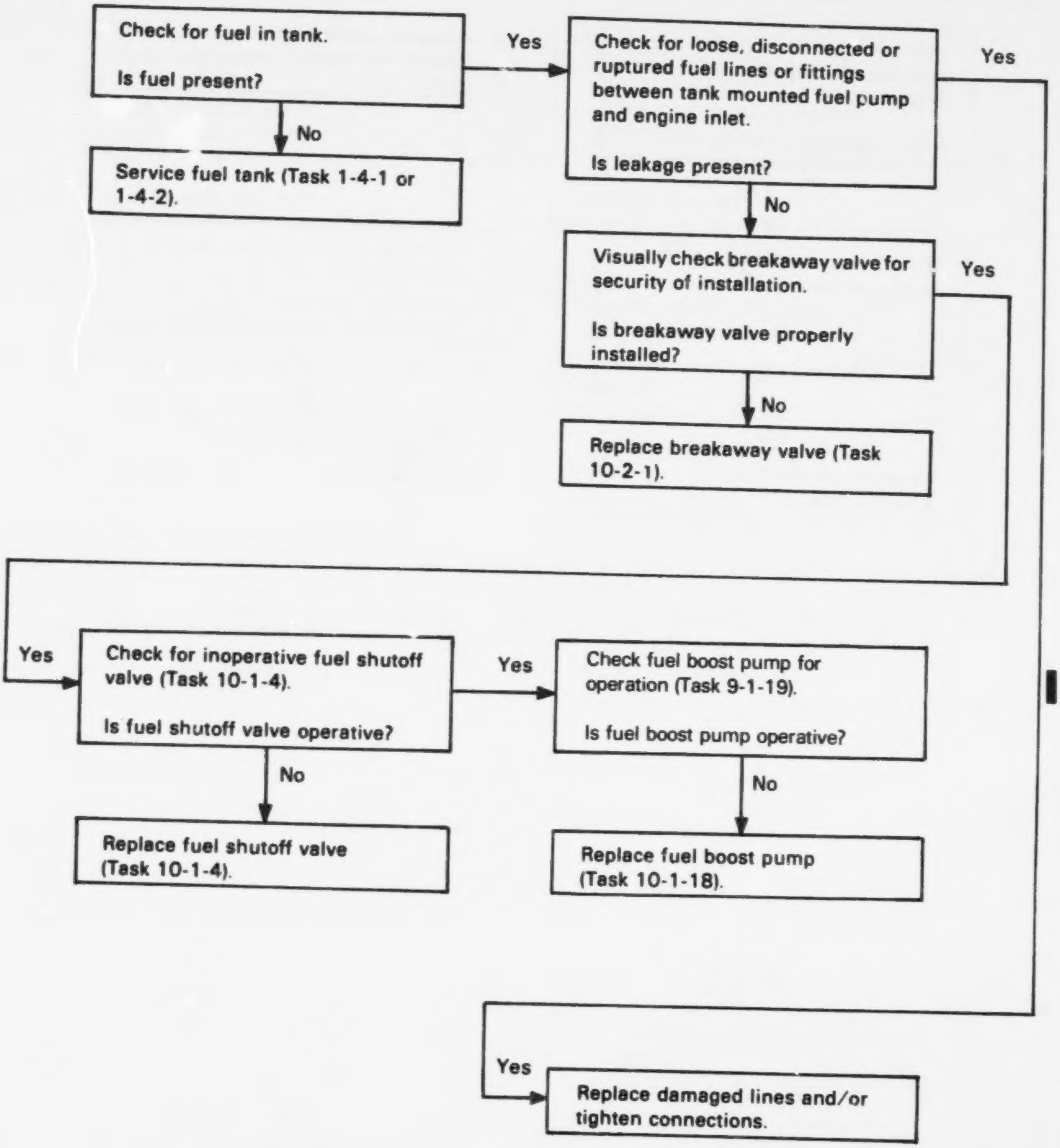

5
SEE SHEET 1
2K1
LINE RELAY
14
13
12
11
P64A22 (2)
2K6
RECTIFIER RELAY
14
13
12
11
P63F22 (2)
2K3
EXTERNAL POWER RELAY
14
13
12
11
P64G22 (2)
2TB3
LW
LN
LT
LB
LA
LF
P63G22 (2)
2CR7
P64A22 (2)
P64B22 (2)
WSHLD POST DISC
22J4
22P4
6
P64C22 (2)
2A1P1
2A1J1
X
P64B22 (2)

406475-233-3

SECTION V Fuel System (Chapter 10)

MAPS NUMBER	SYMPTOM	PAGE NUMBER
1.	No Fuel Flow To Engine Driven Pump	K-745
2.	Fuel Flow To Engine Driven Pump Restricted	K-746
3.	Incorrect Capacitance Reading On Test Set	K-747
4.	Fuel Low Quantity Indication Inoperable	K-749

1. NO FUEL FLOW TO ENGINE DRIVEN PUMP


Check for fuel in tank.
Is fuel present?
Yes
No
Service fuel tank (Task 1-4-1 or 1-4-2).
Check for loose, disconnected or ruptured fuel lines or fittings between tank mounted fuel pump and engine inlet.
Is leakage present?
Yes
No
Visually check breakaway valve for security of installation.
Is breakaway valve properly installed?
Yes
No
Replace breakaway valve (Task 10-2-1).
Yes
Check for inoperative fuel shutoff valve (Task 10-1-4).
Is fuel shutoff valve operative?
Yes
No
Replace fuel shutoff valve (Task 10-1-4).
Check fuel boost pump for operation (Task 9-1-19).
Is fuel boost pump operative?
No
Replace fuel boost pump (Task 10-1-18).
Yes
Replace damaged lines and/or tighten connections.

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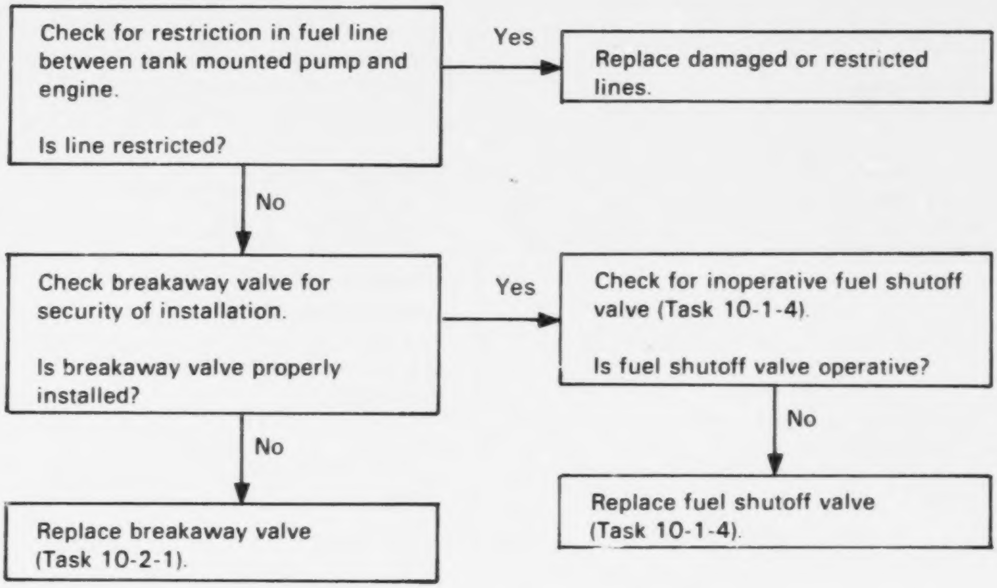
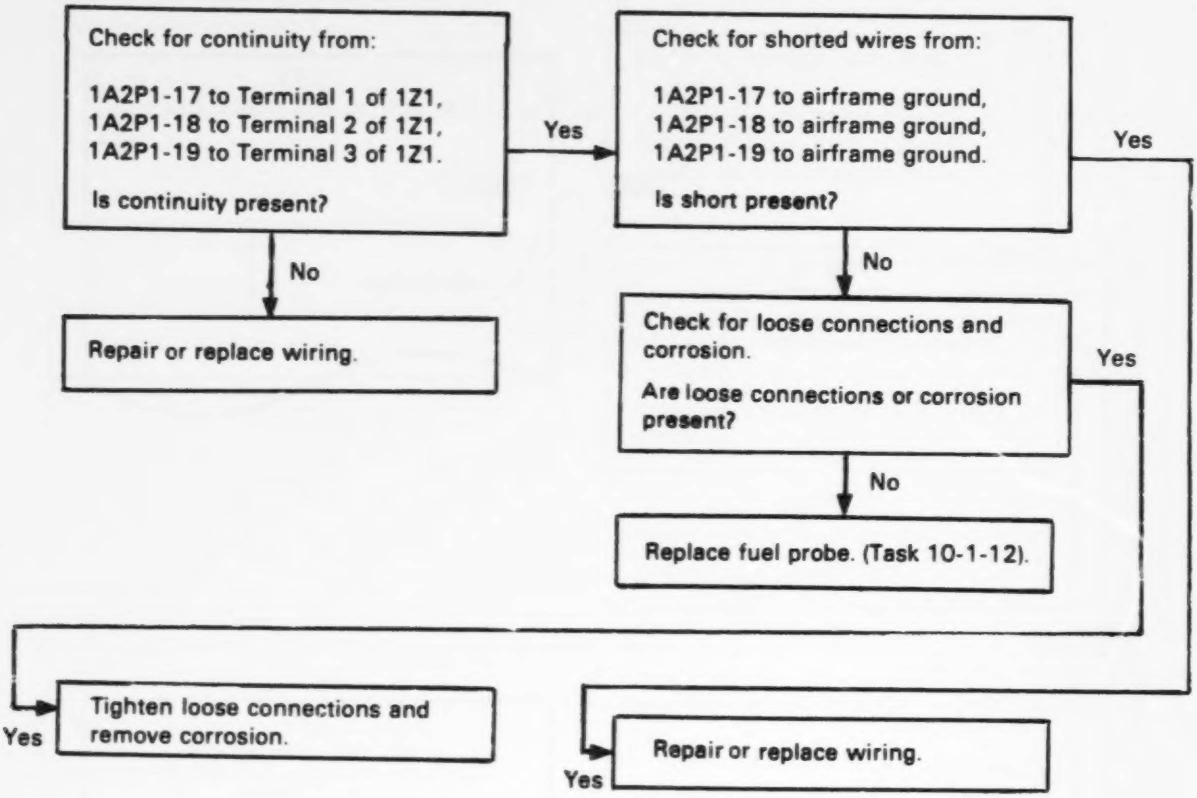
2. FUEL FLOW TO ENGINE DRIVEN PUMP RESTRICTED


Check for restriction in fuel line between tank mounted pump and engine.
Is line restricted?
Yes
Replace damaged or restricted lines.
No
Check breakaway valve for security of installation.
Is breakaway valve properly installed?
Yes
Check for inoperative fuel shutoff valve (Task 10-1-4).
Is fuel shutoff valve operative?
No
Replace breakaway valve (Task 10-2-1).
No
Replace fuel shutoff valve (Task 10-1-4).

3. INCORRECT CAPACITANCE READING ON TEST SET



Check for continuity from:

1A2P1-17 to Terminal 1 of 1Z1,
1A2P1-18 to Terminal 2 of 1Z1,
1A2P1-19 to Terminal 3 of 1Z1.

Is continuity present?

Repair or replace wiring.

Check for shorted wires from:

1A2P1-17 to airframe ground,
1A2P1-18 to airframe ground,
1A2P1-19 to airframe ground.

Is short present?

Check for loose connections and corrosion.

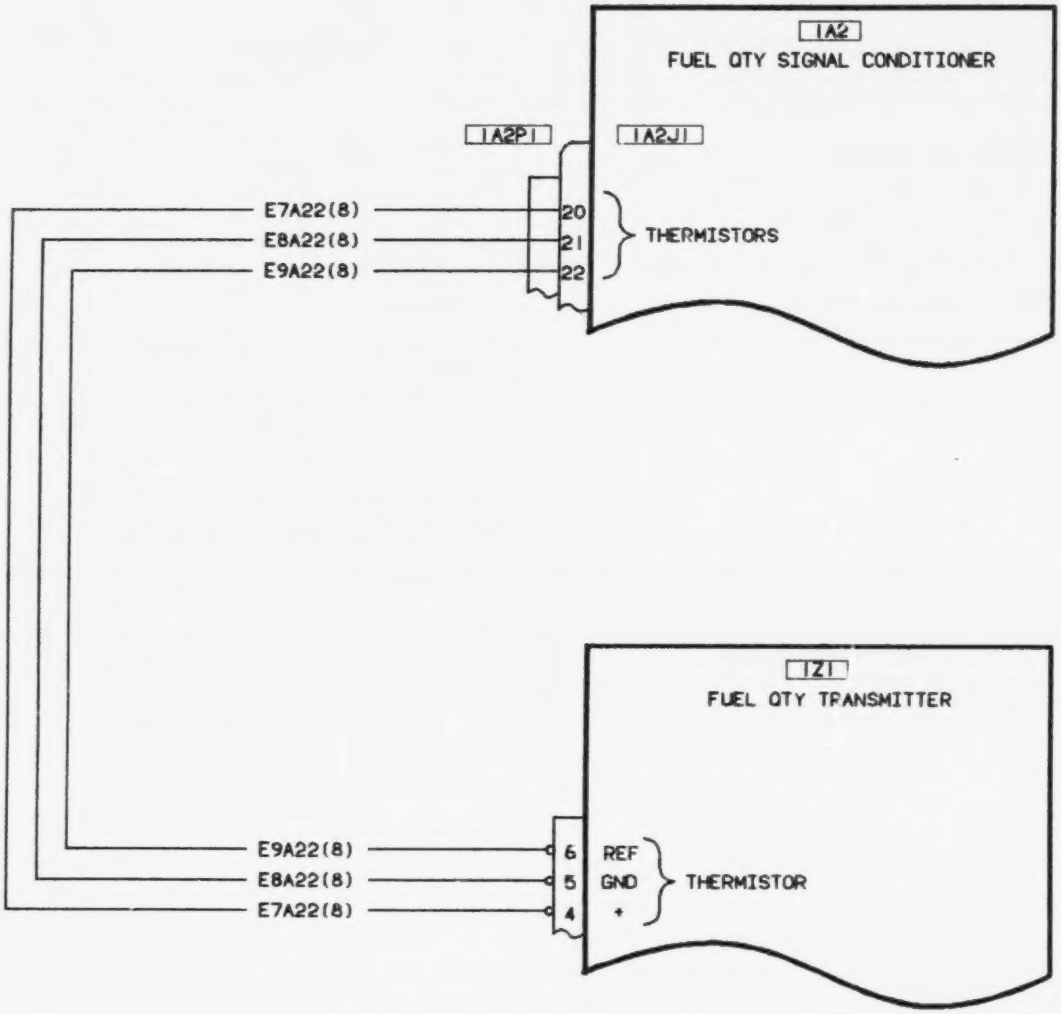
Are loose connections or corrosion present?

Replace fuel probe. (Task 10-1-12).

Tighten loose connections and remove corrosion.

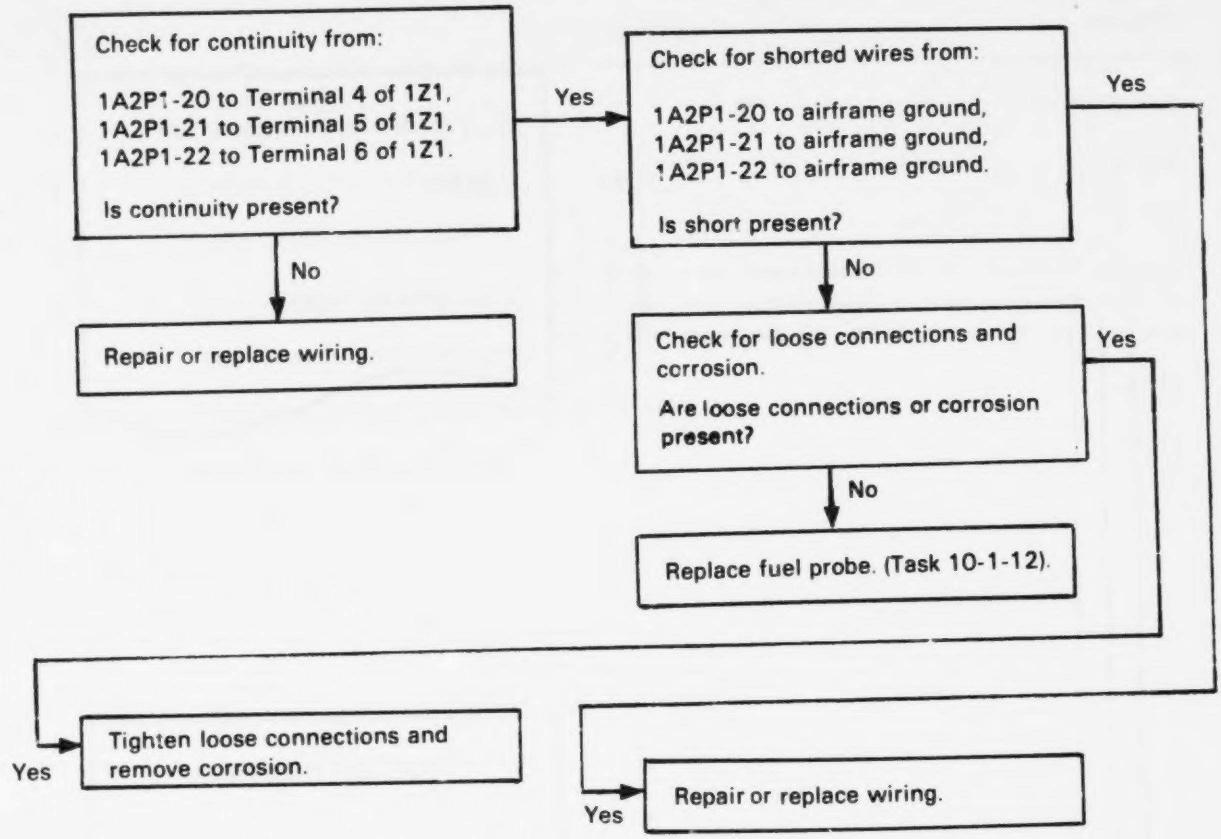
Repair or replace wiring.

3. INCORRECT CAPACITANCE READING ON TEST SET (CONT)


1A2
FUEL QTY SIGNAL CONDITIONER
1A2P1
1A2J1
E7A22(8)
E8A22(8)
E9A22(8)
20
21
22
THERMISTORS
1Z1
FUEL QTY TRANSMITTER
E9A22(8)
E8A22(8)
E7A22(8)
6
5
4
REF
GND
+
THERMISTOR

406475-257
406-475-605D

4. FUEL LOW QUANTITY INDICATION INOPERABLE



Check for continuity from:

1A2P1-20 to Terminal 4 of 1Z1,
1A2P1-21 to Terminal 5 of 1Z1,
1A2P1-22 to Terminal 6 of 1Z1.

Is continuity present?

Repair or replace wiring.

Check for shorted wires from:

1A2P1-20 to airframe ground,
1A2P1-21 to airframe ground,
1A2P1-22 to airframe ground.

Is short present?

Check for loose connections and corrosion.

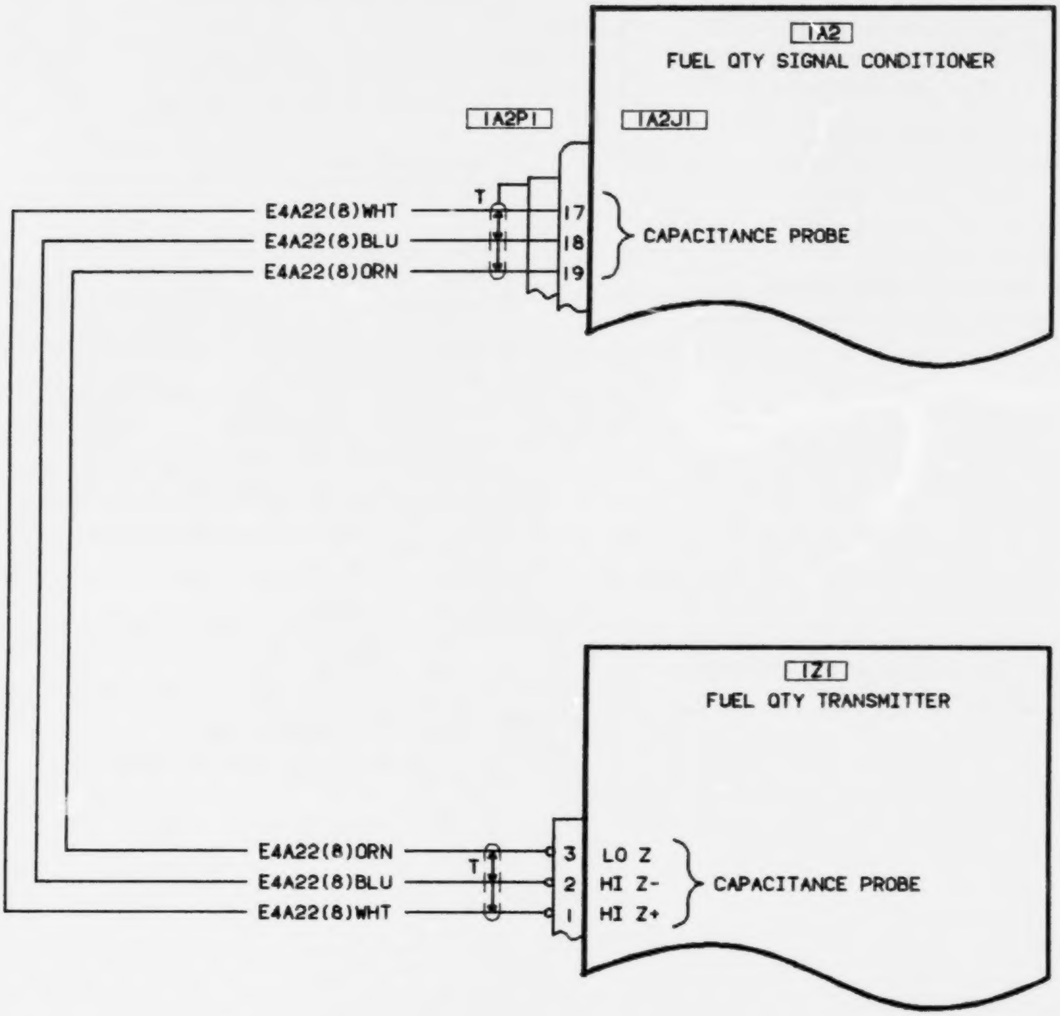
Are loose connections or corrosion present?

Replace fuel probe. (Task 10-1-12).

Tighten loose connections and remove corrosion.

Repair or replace wiring.

4. FUEL LOW QUANTITY INDICATION INOPERABLE (CONT)

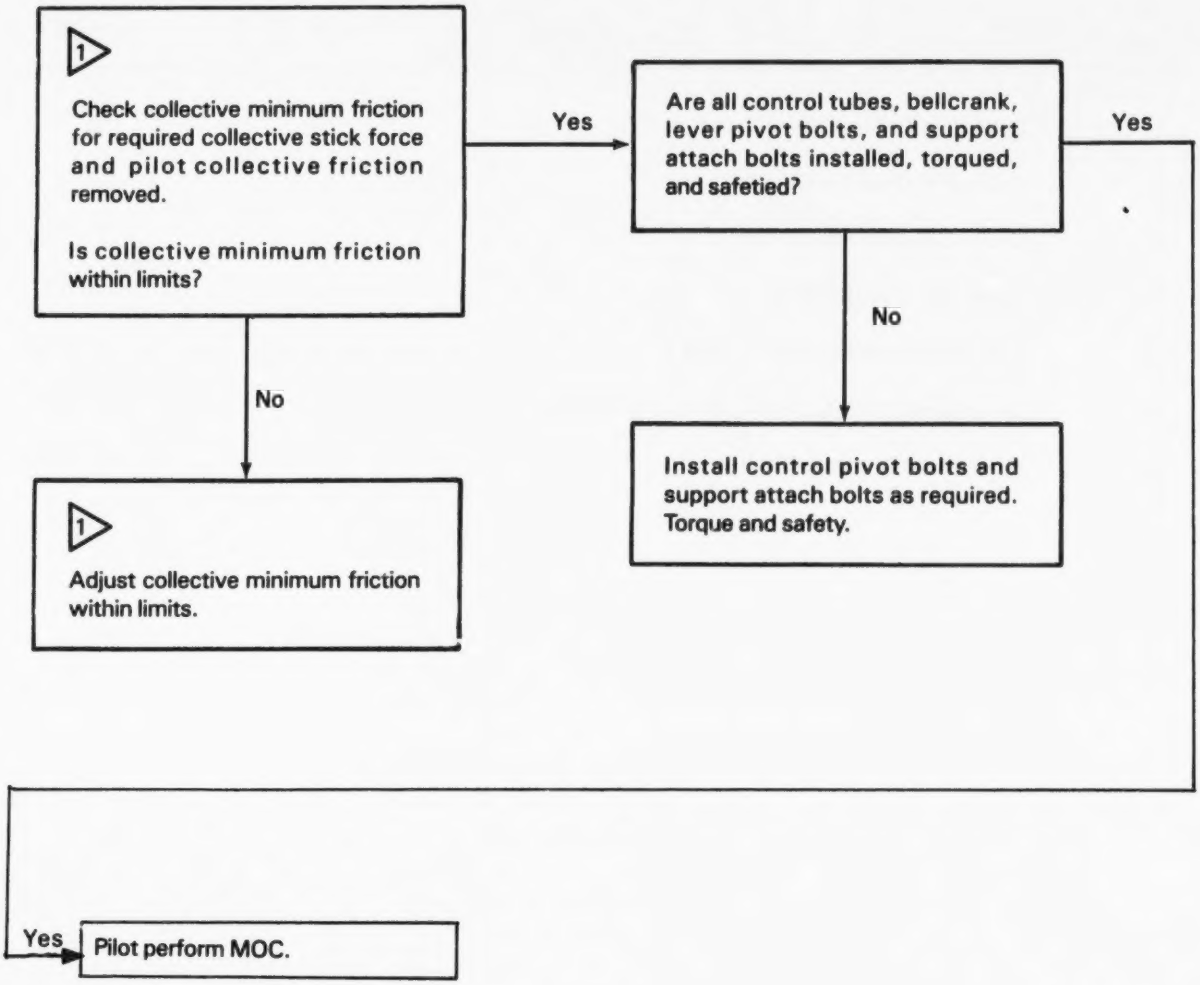

1A2
FUEL QTY SIGNAL CONDITIONER
1A2P1
1A2J1
T
E4A22(8)WHT
E4A22(8)BLU
E4A22(8)ORN
17
18
19
CAPACITANCE PROBE
1Z1
FUEL QTY TRANSMITTER
E4A22(8)ORN
E4A22(8)BLU
E4A22(8)WHT
T
3
2
1
LO Z
HI Z-
HI Z+
CAPACITANCE PROBE

406475-256
406-475-605D

SECTION VI Flight Controls (Chapter 11)

MAPS NUMBER	SYMPTOM	PAGE NUMBER
1.	Collective Controls Feel Loose	K-752
2.	Collective Controls Binding	K-753
3.	Cyclic Controls Feel Loose	K-754
4.	Cyclic Controls Binding	K-755
5.	Directional Controls Feel Loose	K-756
6.	Directional Control Pedals Motoring (Creep)	K-757
7.	Directional Controls Binding	K-758

1. COLLECTIVE CONTROLS FEEL LOOSE



1 Check collective minimum friction for required collective stick force and pilot collective friction removed.

Is collective minimum friction within limits?

Are all control tubes, bellcrank, lever pivot bolts, and support attach bolts installed, torqued, and safetied?

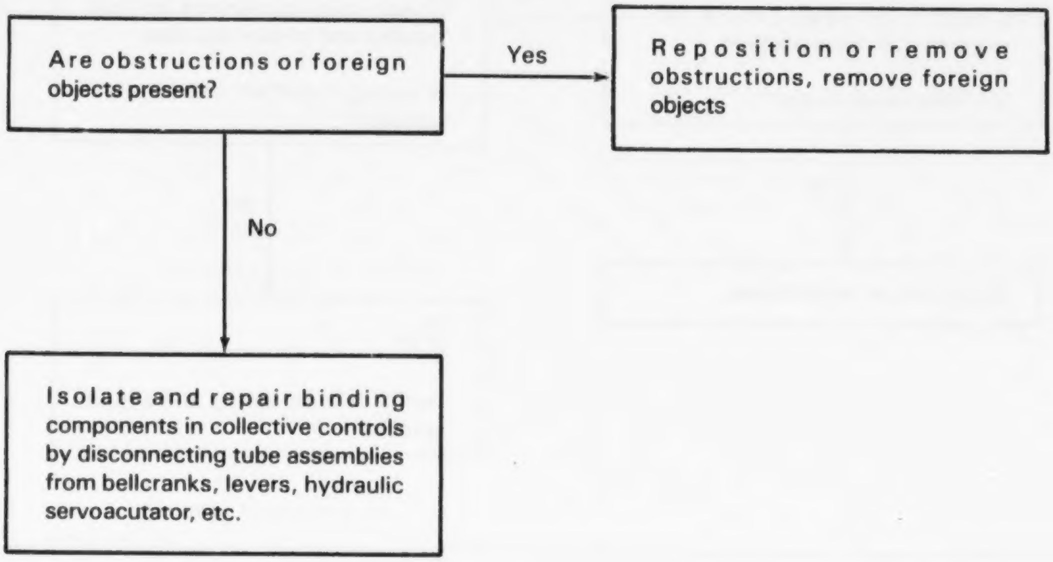
Install control pivot bolts and support attach bolts as required. Torque and safety.

1 Adjust collective minimum friction within limits.

Pilot perform MOC.

1 Hydraulic test stand connected to helicopter and operating.

2. COLLECTIVE CONTROLS BINDING

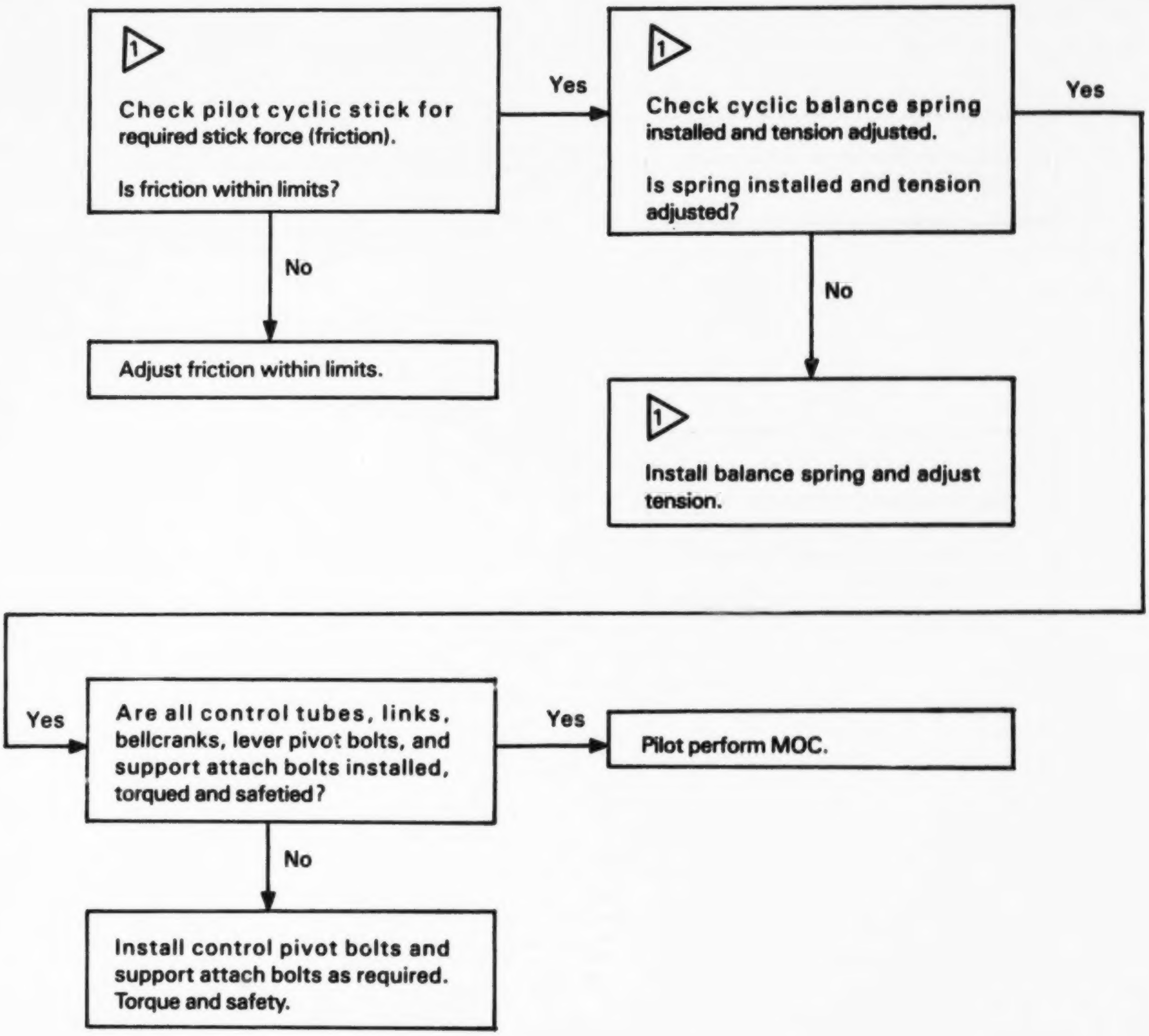


Are obstructions or foreign objects present?

Reposition or remove obstructions, remove foreign objects

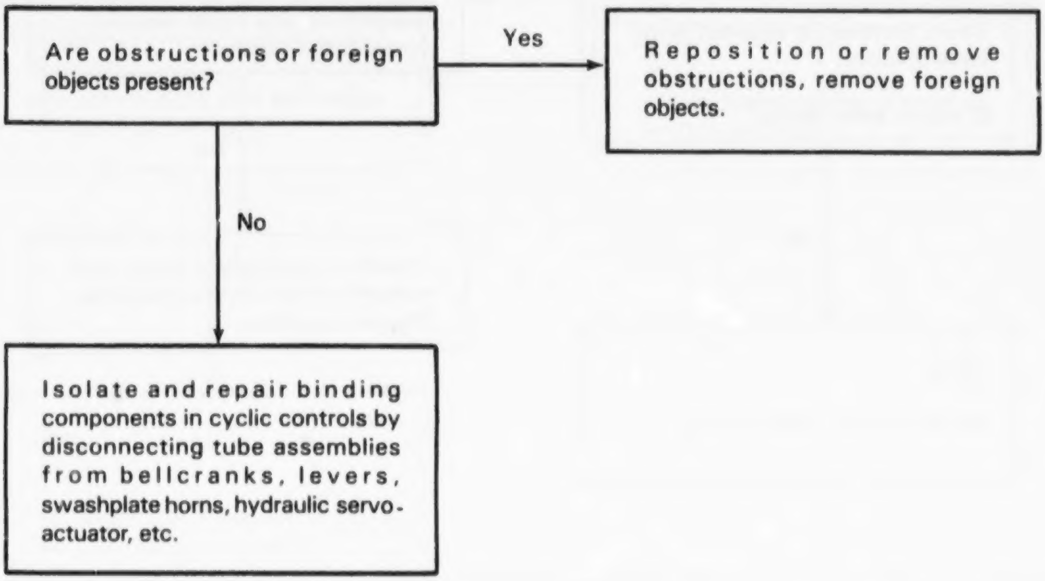
Isolate and repair binding components in collective controls by disconnecting tube assemblies from bellcranks, levers, hydraulic servoacutator, etc.

3. CYCLIC CONTROLS FEEL LOOSE


1
Check pilot cyclic stick for required stick force (friction).
Is friction within limits?
Yes
No
Adjust friction within limits.
1
Check cyclic balance spring installed and tension adjusted.
Is spring installed and tension adjusted?
Yes
No
1
Install balance spring and adjust tension.
Yes
Are all control tubes, links, bellcranks, lever pivot bolts, and support attach bolts installed, torqued and safetied?
Yes
Pilot perform MOC.
No
Install control pivot bolts and support attach bolts as required. Torque and safety.

1 Hydraulic test stand connected to helicopter and operating.

4. CYCLIC CONTROLS BINDING

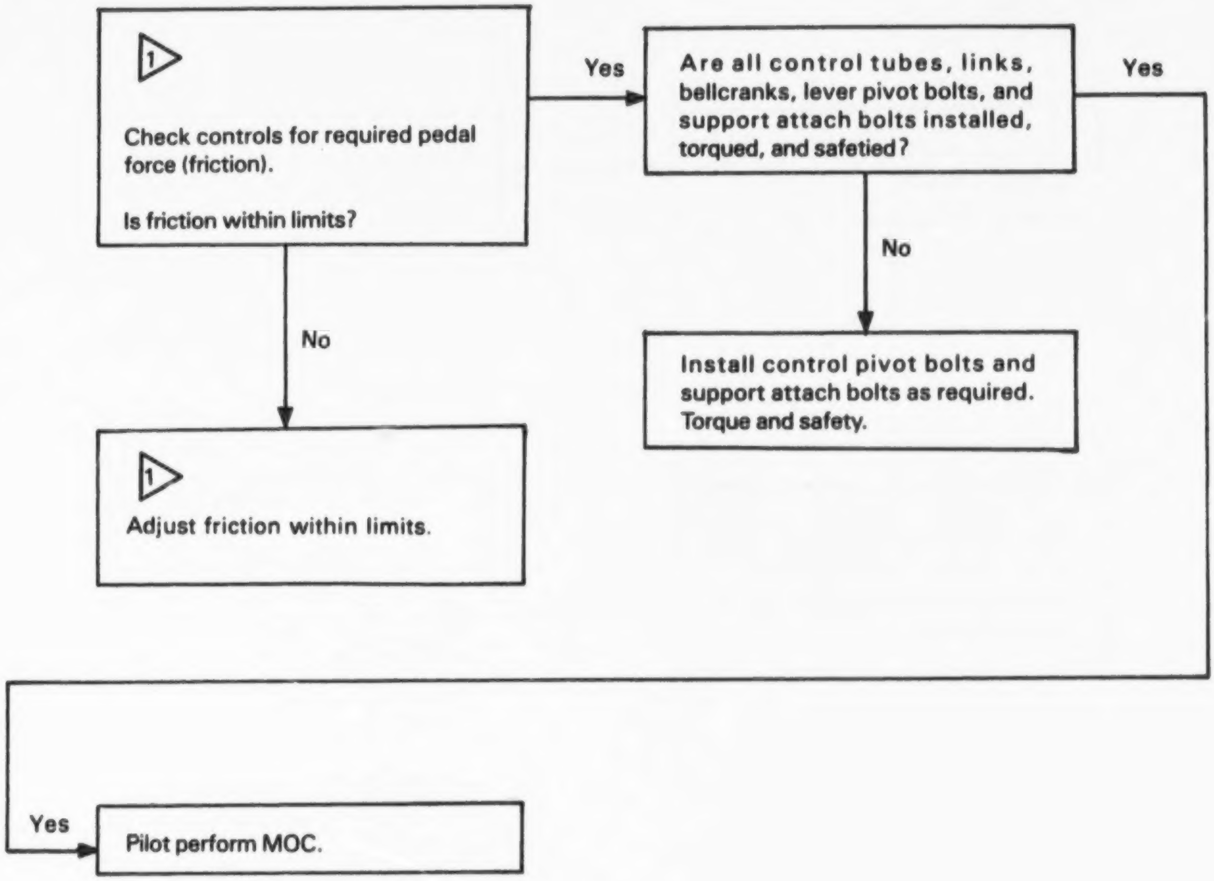


Are obstructions or foreign objects present?

Reposition or remove obstructions, remove foreign objects.

Isolate and repair binding components in cyclic controls by disconnecting tube assemblies from bellcranks, levers, swashplate horns, hydraulic servo-actuator, etc.

5. DIRECTIONAL CONTROLS FEEL LOOSE



Check controls for required pedal force (friction).

Is friction within limits?

Are all control tubes, links, bellcranks, lever pivot bolts, and support attach bolts installed, torqued, and safetied?

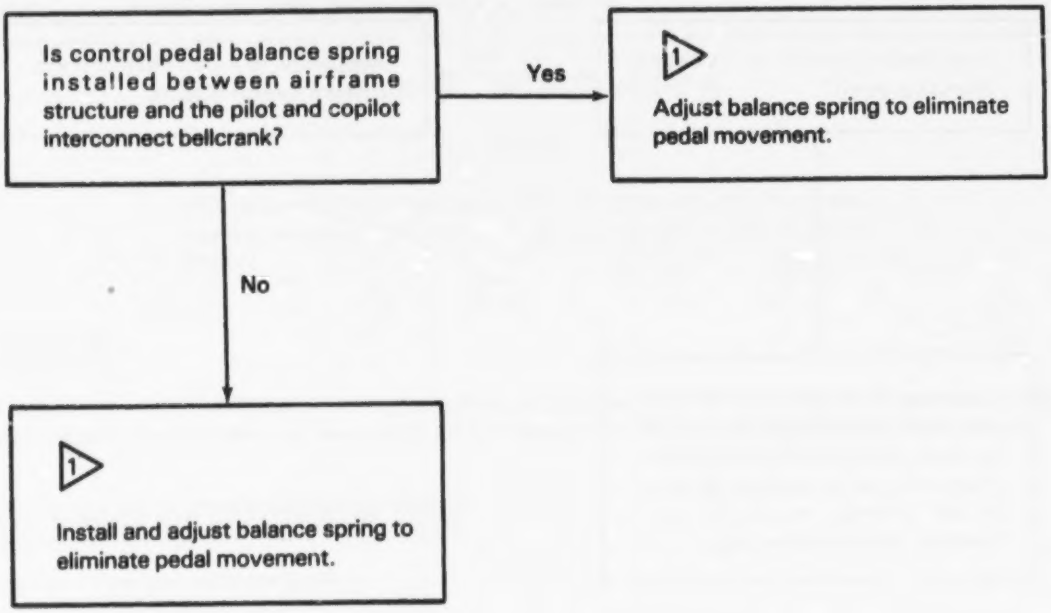
Install control pivot bolts and support attach bolts as required. Torque and safety.

Adjust friction within limits.

Pilot perform MOC.

1 Hydraulic test stand connected to helicopter and operating.

6. DIRECTIONAL CONTROL PEDALS MOTORING (CREEP)



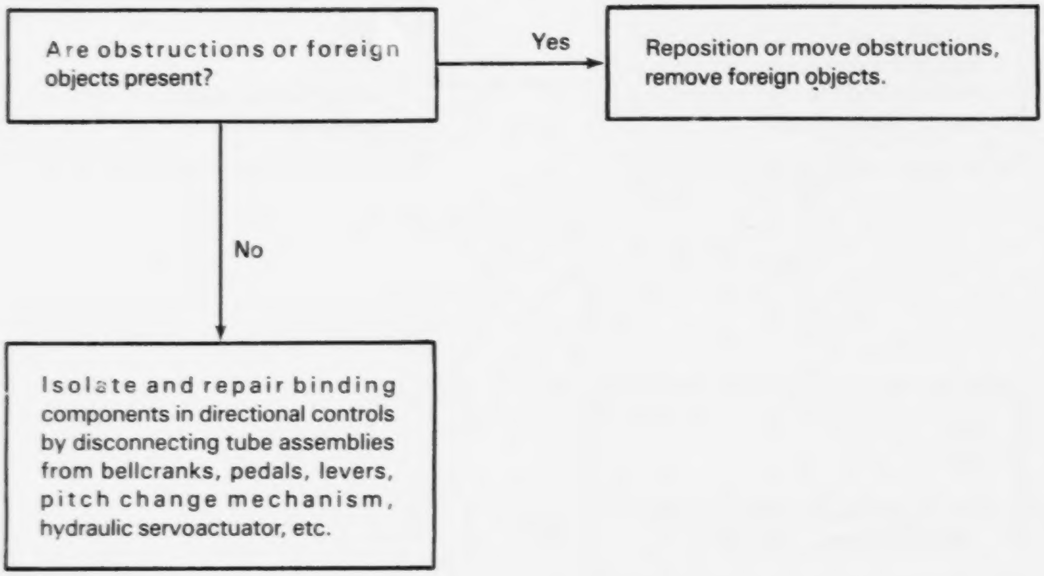
Is control pedal balance spring installed between airframe structure and the pilot and copilot interconnect bellcrank?

Adjust balance spring to eliminate pedal movement.

Install and adjust balance spring to eliminate pedal movement.

▷1 Helicopter test stand connected to helicopter and operating.

7 DIRECTIONAL CONTROLS BINDING



Are obstructions or foreign objects present?

Reposition or move obstructions, remove foreign objects.

Isolate and repair binding components in directional controls by disconnecting tube assemblies from bellcranks, pedals, levers, pitch change mechanism, hydraulic servoactuator, etc.

APPENDIX L

BATTERY TESTING AND SERVICING

Section I Introduction L-1
Section II Battery Testing and Servicing L-3
Section III References, Tools, Materials and Abbreviations L-11

Section I. INTRODUCTION

NOTE

This appendix is temporary to TM 55-1520-248-23. The information provided will eventually be incorporated in TM 11-6140-203-14.

L-1. SCOPE

This appendix provides procedures for testing and servicing the No. 1755 OH-58D battery. These procedures will be accomplished each time a battery is removed from a helicopter for any battery problems or maintenance.

L-2. PURPOSE OF ELECTRICAL TEST

The purposes of the electrical tests are to:

a. Correct cell imbalance (uneven ampere-hours capacity between various cells).

b. Correct cell electrolyte levels.

c. Determine condition of cells and to locate faulty cells.

d. Provide the battery with a proper charge.

L-3. CELL IMBALANCE

Cell imbalance normally occurs due to cycles of heavy battery demands and constant voltage charging. Generally, cell imbalance does not become critical during the period between electrolyte leveling.

L-4. WARNINGS, CAUTIONS, AND NOTES

Personnel performing procedures and practices which are included or implied in this appendix shall observe the following warnings, cautions, and notes.

WARNING

An operating procedure, practice, etc., which if not correctly followed, could result in personal injury or loss of life.

CAUTION

An operating procedure, practice, etc., which if not strictly observed, could result in damage to or destruction of equipment.

NOTE

An operating procedure, condition, etc. which it is essential to highlight.

SAFETY STEPS
ELECTRICAL SHOCK

Refer to FM 21-11 for electrical shock safety steps and procedures.

WARNING

METAL OBJECTS

Remove all metallic objects from wrists and fingers before servicing a charged or partially charged battery.

WARNING

NICKEL-CADMIUM ELECTROLYTE

Nickel-Cadmium electrolyte is caustic and can cause serious injury to eyes or skin and is detrimental to clothing. Electrolyte = 30% by weight potassium hydroxide (KOH) and distilled water.

WARNING

HYDROGEN GAS

Hydrogen gas is generated during the charging process. Adequate ventilation is critical.

CAUTION

OVERCHARGING

Second phase or "overcharging" at a high rate causes cell overtemperature while a low charge rate may result in low battery output. Also, a high rate of "overcharging" rapidly depletes electrolyte by gassing.

CAUTION

FOREIGN SUBSTANCE

Great care should be taken to prevent foreign substance from entering cells. Carbon dioxide in the air will also damage battery plates.

CAUTION

SOLVENTS

Do not use solvents, chemicals or petroleum products to clean battery or battery parts. Use only clean or soapy water. Neutralizer 3-5% boric acid or vinegar.

CAUTION

CHARGING EQUIPMENT

Do not use charging equipment or tools used on lead acid batteries.

NOTE

Electrolyte levels may vary considerably with the state of charge. Even with a full charge, the level may change when the charger is removed. Check or add to the electrolyte only during the last 30 minutes of second phase charge (over-charge phase) while continuing the charge.

NOTE

The amount of water consumed by a battery is directly proportional to the rate and/or elapsed time of overcharge condition, high battery operating temperature due to high ambient temp or heavy battery demands. A defective cell may cause high electrolyte usage in that cell only.

Section II. BATTERY TESTING AND SERVICING

L-5. DESCRIPTION

This section contains procedures for testing and servicing the No. 1755 OH-58D battery.

LIST OF TASKS

Task	Task Number	Page Number
Initial Discharge	L-1-1	L-4
Charging a Fully Discharged Battery	L-1-2	L-7
Charging a Previously-Charged Battery	L-1-3	L-8
Electrolyte Leveling	L-1-4	L-9

L-1-1. INITIAL DISCHARGE

This task covers: Initial Discharge (Off Helicopter)

INITIAL SETUP

Applicable Configurations:

All

Materials:

Distilled Water (D180)

Tools:

Shorting Clips
Electrical Repairer Tool Kit
Battery Charger/Analyzer
Voltohmmeter (VOM)

Personnel Required:

68F Aircraft Electrician

Reference:

TM 11-6140-203-15-1

NOTE

In steps 1 and 2, if leakage is more than 50 milliamps (ma) battery must be discharged and repaired (TM 11-6140-203-15-1).

1. Check for cell to case leakage using VOM from battery positive (+) terminal (1) to case (2) on battery (3).

2. Check for cell to case leakage using VOM from battery negative (-) terminal (4) to case (2) on battery (3).

3. Discharge the battery (3) at a constant current not to exceed 14.4 amps, noting the start time and discharge current.

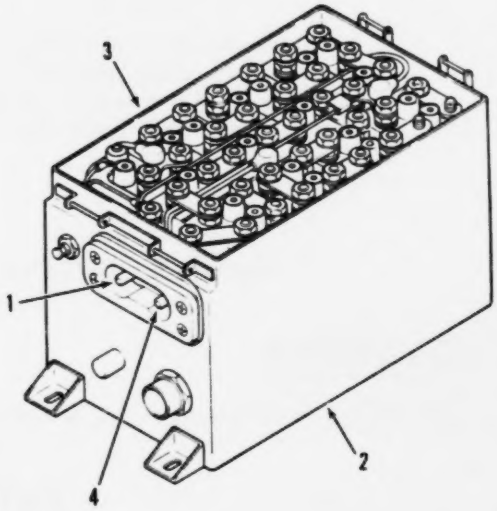
4. Monitor individual cell voltage during the discharge and note the time when the first cell drops to 1.0 volt while continuing the discharge.

NOTE

Perform step 5 if individual cell voltage drops to 0.0 volts (or reverses polarity).

5. Short out the cell with shorting clips across the cell terminals for the remainder of the discharge.

6. When the total battery voltage drops to 19.0 volts, stop the discharge and note the time.



L-1

GO TO NEXT PAGE

L-1-1. INITIAL DISCHARGE (CONT)

7. Determine the elapsed time in hours required for the following:

a. The first cell to reach 1.0 volt (for determining minimum cell capacity).

b. The battery voltage (from start of discharge) to drop to 19.0 volts (for determining battery capacity).

8. Determine minimum cell capacity by multiplying the discharge current (14.4 amps or less) times the elapsed time in step 7.a.

9. Determine battery capacity by multiplying 14.4 amps (if used) times the elapsed time in step 7.b.

10. Enter battery capacity in the battery record for future comparisons.

NOTE

If the minimum cell capacity is equal to or greater than 85% (14.45 amps) of rated battery capacity (17 amp hrs), the battery is capable of receiving a good charge in the helicopter and cell imbalance is within acceptable limits.

11. Allow the battery to cool to room temperature.

12. Charge the battery (Task L-1-3, step 3).

GO TO NEXT PAGE

L-1-1. INITIAL DISCHARGE (CONT)

13. Level electrolyte (Task L-1-4) and return battery to operation.

NOTE

If the minimum cell capacity is less than 85% (14.45 amps) of battery rated capacity, the following may be the cause:

a. The helicopter voltage regulator may be set too low.

b. Cell(s) may be defective.

c. Cell imbalance may have occurred.

Refer to TM 11-6140-203-15-1 for repair.

14. Continue the initial discharge and as each cell voltage drops to 0.5 volts, attach shorting clips across the terminals. Leave clips on overnight to allow the cells to completely discharge and the battery to cool.

15. Check the initial discharge to determine if any cell indicates an immediate 1.5 or more volts rise. If this occurs, add 10 cubic centimeters (cc) distilled water (D180) and monitor its performance closely during the first charge phase. If the cell shows a continuous temperature rise, the cell probably has internal damage (TM 11-6140-203-15-1). Charge battery per (Task L-1-2).

END OF TASK

L-1-2. CHARGING A FULLY DISCHARGED BATTERY

This task covers: Charging (Off Helicopter)

INITIAL SETUP

Applicable Configurations

All

Tools:

Electrical Repairer Tool Kit
Battery Charger/Analyzer

Personnel Required:

68F Aircraft Electrician

Reference:

TM 11-6140-203-15-1

1. Loosen all vent valves, but do not remove them.

2. The following three methods of charging are acceptable:

a. Charge battery at 1.7 amps until battery voltage reaches 28.5 (first phase). Note the time and continue charging at 1.7 amps for 4 hours (second phase). The total charge time must be between 14 and 16 hours. If the total charge time does not fall within this time limit, the battery should be repaired (TM 11-6140-203-15-1).

b. Charge battery at 8.5 amps for at least 2 hours. If battery has reached 29.45 volts, continue charging at 1.7 amps for 4 additional hours. If battery has not reached 29.45 volts in 2 hours, continue charging at 8.5 amps until it has reached this level, but do not exceed 30 additional minutes of charge. If the battery fails to reach 29.45 volts in 2½ hours, it should be repaired (TM 11-6140-203-15-1). If it does reach 29.45 volts, continue charging at 1.7 volts for 4 additional hours.

c. Charge battery at 17.0 amps for at least 1 hour. If the battery reaches 29.83 volts, continue charging at 1.7 amps for 4 additional hours. If the battery has not reached 29.83 volts, continue charging at 17.0 amps until it does, but do not exceed 15 additional minutes of charge. If 29.83 volts has not been reached within 15 minutes, the battery should be repaired (TM 11-6140-203-15-1). If the voltage does reach 29.83, continue charging at 1.7 volts for 4 additional hours.

END OF TASK

L-1-3. CHARGING A PREVIOUSLY CHARGED BATTERY

This task covers: Charging (Off Helicopter)

INITIAL SETUP

Applicable Configurations:

All

Tools:

Electrical Repairer Tool Kit
Battery Charger/Analyzer

Personnel Required:

68F Aircraft Electrician

1. Loosen all vent valves, but do not remove them.

NOTE

Perform step 2 if the exact state of charge is unknown, or if a charged battery has remained inactive for more than 2 months.

2. Discharge the battery at a rate not to exceed 14.4 amps to 19 volts, then recharge the battery per step 3. Check for cell to case leakage (Task L-1-1, steps 1 and 2).

NOTE

Perform step 3 if a charged battery has remained inactive for more than 2 weeks, but less than 2 months, or checks out good per Task L-1-1, step 10.

3. Charge battery at 1.7 amps until the battery reaches 29.85 volts before placing the battery in service. This will provide about 85% of a full charge and the helicopter system should complete the charge.

END OF TASK

L-1-4. ELECTROLYTE LEVELING

This task covers: Electrolyte Leveling (Off Helicopter)

INITIAL SETUP

Applicable Configurations:

All

Materials:

Distilled Water (D180)

Tools:

SAFT Tool Kit P/N 017569

Personnel Required:

68F Aircraft Electrician

Reference:

SAFT Operating and Maintenance Manual

NOTE

Use only a SAFT syringe with a nozzle length especially made for the No. 1755 battery. See SAFT Operating and Maintenance Manual for local manufacturer of syringe nozzle and specific length. Syringe capacity is 20 milliliter (ml).

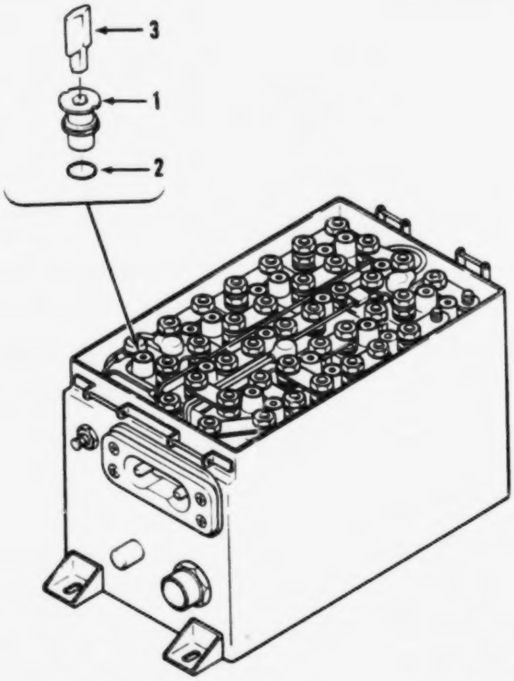
1. Remove vent valve (1), with "O" ring (2), using vent wrench (3).

2. Seat syringe in vent opening and slowly raise plunger. If the cell contained excess electrolyte, it will be drawn into the syringe. Discard excess electrolyte in a safe place.

NOTE

Perform step 3 if no electrolyte is drawn into syringe.

3. Draw 5cc of distilled water (D180) into syringe and inject into the cell. Note the total volume injected into each cell.



L-2

GO TO NEXT PAGE

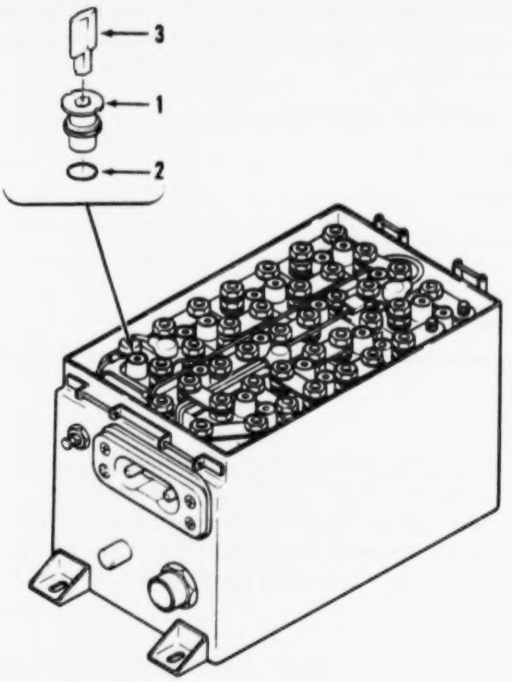
L-1-4. ELECTROLYTE LEVELING (CONT)

4. Repeat step 2 to determine whether too much or too little water was added.

5. Repeat step 3 if no electrolyte was drawn into syringe.

6. Check the volume removed if electrolyte was drawn into syringe, and subtract this from the total added to the cell and enter the result into the battery's record. If more than 20cc was required, a portion of the plates were dry and the cell may have been damaged, (see Task L-1-1, step 15).

7. Install vent valve (1) with new "O" ring (2) using vent wrench (3).



L-2

END OF TASK

SECTION III

REFERENCES, TOOLS, MATERIALS, AND ABBREVIATIONS

REFERENCES:

– – –	SAFT Operating and Maintenance Manual
TM 11-6140-203-15-1	Operator's, Organizational, DS, GS, and Depot Maintenance & Aircraft and Nonaircraft Nickel-Cadmium Batteries (General)

TOOLS:

- Battery Charger/Analyzer
- Electrical Repairer Tool Kit
- SAFT Tool Kit P/N 017569
- Shorting Clips
- Voltohmmeter

MATERIALS:	NSN:	U/M:
Distilled Water (D180)	6810-00-286-3783	GL

ABBREVIATIONS:

cc	Cubic Centimeters
ma	Milliamps
ml	Milliliter
VOM	Voltohmmeter

ALPHABETICAL INDEX

SUBJECT PAGE

A

Abbreviations ... Glossary-1
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  (Engine Operating) ... 9-3
  (Inverter Operation) ... 9-8
AC External Power — Operational Check ... 9-83
AC External Power Control Unit
  Clean, Inspect, and Repair ... 9-261
  Remove/Install ... 9-263
AC External Power Door Switch
  Clean, Inspect, and Repair ... 9-234
  Remove/Install ... 9-236
AC External Power Receptacle
  Clean, Inspect, and Repair ... 9-238
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AC External Power Reset Switch
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Z

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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6	2-1 a			In line 6 of paragraph 2-1a the manual states the engine has 6 Cylinders. The engine on my set only has 4 Cylinders. Change the manual to show 4 Cylinders.
81		4-3		Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the other.
125	line 20			I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 063811-000